

iOS 7 First Look at
the Mobile OS

Bye-Bye Big Cats:
OS X Mavericks

Macworld

www.macworld.com

August 2013

iPad: The New Work Machine

How to Make the iPad a Better Business Tool



PLUS

Secrets of the
Finder Path Bar

Top Tips for
iPhoto for iOS

\$6.99 U.S.

0 8 >





Boa courier
Available from an
Apple reseller near
you or at boooq.com

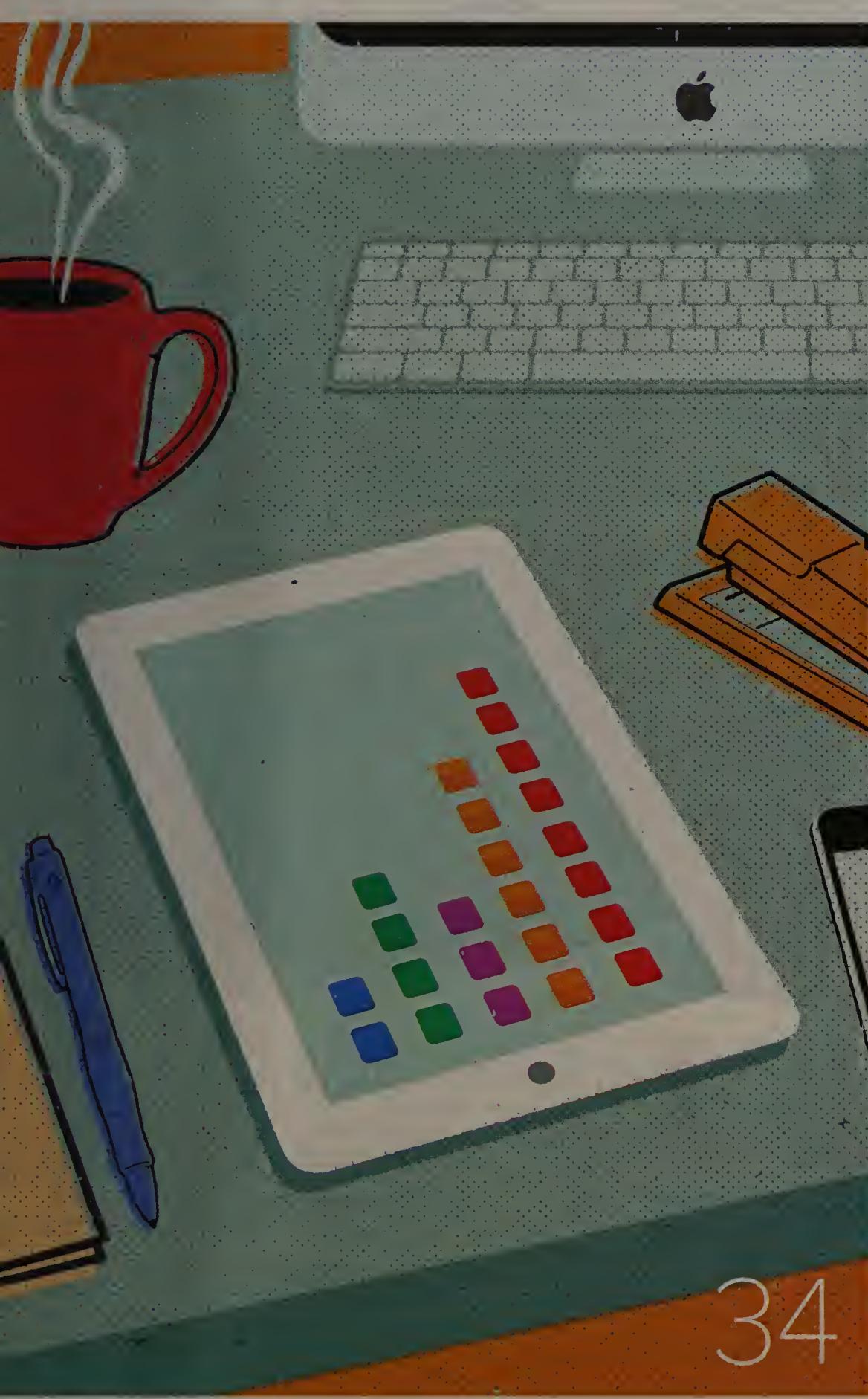
boooq 

Macworld

Contents

BY ROBERT CARDIN

AUGUST 2013



34

Cover Story

34 The New Work Machine
Make your iPad a powerful office tool with these tips and add-ons.

Feature

52 The Green Mac
We explore Mac energy myths, and how to recycle old Apple gear.

Opinion

5 From the Editor's Desk
Apple's total control of the service helped the iTunes Store succeed.

10 Feedback

Readers respond.

MacUser

12 OS X Catches a Wave
This year's WWDC attendees got a preview of OS X Mavericks.

- 14 Six Famous Windows Apps That Debuted on the Mac**
- 16 Apple Tops Survey on Tech Support**
- 18 Tech Advice: When Your Mac Takes a Fall**

PLUS: Hot Stuff **20**

22 Mac Gems

Apps for mind-mapping, browsing cloud files remotely, and more.

iOS Central

26 Apple Unveils iOS 7
It may be the most altered version of iOS since the iPhone debuted.

- 28 Retina Displays for Accessibility**
- 29 Apple's App Store Surpasses 50 Billion Downloads**
- 29 Amazon Launches Cloud Drive Photo App for Storage, Sharing**

PLUS: Reviews **32**

30 App Guide

We review new App Store offerings that caught our eye this month.

Macworld Contents

Working Mac

62 Secrets of the Finder's Path Bar

This low-key tool offers convenient shortcuts for working with files.

64 Five Overlooked System Settings

65 OGIO Renegade RSS 17

66 Dictionary Tricks You Can't Live Without

PLUS: Reviews **68**

Playlist

70 Ask the iTunes Guy

Kirk McElhearn discusses device syncing, smart playlists, and more.

72 Cult Favorite Movies Streaming on Hulu Plus

74 Four Stylish On-Ear Headphones

PLUS: Hot Stuff **75**

Create

76 Tips and Tricks for iPhoto for iOS

Little-known features of the mobile app can add pizzazz to your photos.

78 New Flickr Interface Emphasizes Social Media

80 Adobe's Mighty and Napoleon Drawing Hardware for the iPad

81 Hands On With Oggl

82 How to Shoot Macro Nature Photos

83 Acorn 4 Adds Impressive Features and a Smart New Look

Help Desk

84 Mac OS X Hints

See your Finder history, calculate users' disk usage, and more.

86 Mac 911

Blur objects in iMovie 11, overcome AirPort interference, and more.

Back Page

96 Spotlight

The sandboxing model in iOS does not reflect the way people work.



MULTIMEDIA AT MACWORLD.COM

Check out our latest podcasts, slideshows, and videos

Macworld PODCASTS



Video: Apple's 2013 WWDC

Lex Friedman reviews highlights from the recent conference (go.macworld.com/wwdc2013).

We also recommend:

Video: Replace Calendar With Fantastical (go.macworld.com/replacecal).

Podcast: Creative Cloud and iPhoto Improvements (go.macworld.com/ccloud).

Video: All About 'About This Mac' (go.macworld.com/aboutabout).

Video: Instagram Tricks and Tips (go.macworld.com/instatricks).

Whoosh: Sounds cool, feels cooler.



Different in every way, the Haiku® ceiling fan exceeds all expectations.

Case in point: Whoosh®. Mimicking the variations in natural breezes, Whoosh doesn't just sound cool—it will make you feel up to 40% cooler than constant airflow*. Set Haiku on Whoosh and enjoy the ocean breezes—even if you're surrounded by four walls.

Whoosh is just one example of how Haiku is (literally) the coolest ceiling fan in the world. With its patent-pending motor design that is both silent and powerful, Haiku is certified by ENERGY STAR® as the world's most efficient ceiling fan. Meticulously handcrafted of the highest quality materials—five layers of sustainable Moso bamboo or durable, glass-infused matrix composite—Haiku Thin Sheet™ airfoils are precision balanced so you'll receive the very best ceiling fan, without the wobble. Guaranteed.

Winner of 11 international design awards, the 60-inch Haiku ceiling fan is everything you expect from a Big Ass Fan®, designed specifically for your home.



"As an engineer, I know what good manufacturing looks like. I've always been impressed with Big Ass Fans' products, and Haiku's Whoosh mode shows real innovation. Whoosh brings the feeling of a natural breeze indoors."

Paul E., New York

HAIKUFAN.COM/SHIPPING 877-835-9115

Visit haikufan.com/SHIPPING and use promo code **MW813** to receive free shipping** through August 31, 2013



BEST
OF
YEAR HONOREE
2012



BIG ASS FANS
No Equal.

*Human thermal sensation to air movement frequency, Yizai Xia, Rongyi Zhao and Welquan Xu (2000)

**Haiku free shipping expires August 31, 2013 and is only available in the contiguous 48 United States. Cannot be combined with another offer or applied to an existing order.

©2013 Delta T Corporation dba the Big Ass Fan Company. All rights reserved.



THIS IS DOUG BACKING UP HIS COMPUTER.

Carbonite backs up all your irreplaceable files automatically, so you don't have to.

- **Automatic.** Backs up continuously to the cloud.
- **Secure.** Keeps files encrypted offsite.
- **Unlimited.** Unlimited backup space for your computer.
- **Access.** Lets you get backed up files anytime, anywhere.
- **\$59⁹⁹/yr.** Peace of mind for one low price.

CARBONITE 
ONLINE BACKUP

**TRY IT FREE
AT CARBONITE.COM**

NO CREDIT CARD REQUIRED.

Use offer code MACWORLD for two free months with purchase.

Why the iTunes Store Succeeded

Apple's ability to control all parts of the music experience helped its online music outlet triumph.

The traditional tenth-anniversary gifts of tin and aluminum are appropriate for the iTunes Store. Both durable and somewhat flexible, the iTunes Store has become the preeminent place to purchase music. Still, if not for the unintended assistance of a bungling music industry, the store might have been as ephemeral as iTunes' social service, Ping.

Labels Under Pressure

In the late days of the 20th century, computer programs appeared that could create digital copies of music stored on CDs. Ripping CDs became a common practice. With the help of broadband Internet connections, people found that they could share this music far more widely than before, via peer-to-peer sharing sites such as the original Napster.

From there, the story moves to the major music labels' boardrooms. CD sales were dropping, the singles market had mostly vanished save for dance music, illegal music sharing was on the rise, the labels' efforts to market and sell music online yielded a hodgepodge of failures, and too many executives (and lobbyists) insisted that if music were copy-protected and the worst file sharers prosecuted, the problem of illegal copies would disappear.

Apple to the Rescue

Then, in walked Apple with a compelling idea: People who are motivated to steal music will continue to do so. But if you make stealing more trouble than it's worth, by making digital music easy to find and purchase, and you price it reasonably, the vast majority of people will choose to buy rather than steal. And so was born the iTunes Music Store.

When it launched in April 2003, the iTunes Music Store was available only to Mac users, but Windows support was



The music industry's inability to devise a single strategy that served all labels left Apple a very large hole to hop through.

added that October. And year after year, Apple's store grew—in capability, catalog size, and number of sales—adding videos, apps, and books, and eventually becoming simply the iTunes Store.

Where It All Leads

Why did the iTunes Store succeed where other services—such as those from EMI, Sony Music Entertainment, Time Warner, Universal Music Group, and Virgin—fail?

Certainly the music industry's inability to devise a single strategy that served all labels, and its stubborn adherence to protection and prosecution, left Apple a very large hole to hop through. But its secret weapon was its ability to control all sides of the business: the cloud-based store; the client that people used to buy the music (iTunes, which Apple wisely gave away for free); and above all, the era's most popular music player, the iPod.

While other companies struggled to cobble together music services that clumsily delivered heavily protected music to a handful of third-party also-ran players, Apple owned and operated all the component parts. All that the company needed was the consent of the content owners. To our benefit (and to the ultimate chagrin of the music labels), record company executives failed to grasp the potential of an ecosystem that provided easy access to music at a fair price, and that played on history's most popular portable music player—and they allowed Apple to license their music.

It caught on.

Happy as those executives were when ever-juicier checks rolled in, that happiness dissipated when the labels felt their control slipping away.

"Sure, you're selling lots of singles for 99 cents and albums for 10 bucks, but we think popular tracks should go for more," they said. "We demand the right to price music as we see fit!"

To which Apple replied, "No."

"We'll leave!" they cried.

"Go right ahead," responded Apple. "But before you do, recall the pickle you were in before we saved your butts."

"Grrrrr...," the labels grrrr-ed.

Over time, the labels have regained some authority. To get the labels to give up on copy protection, Apple relented on variable pricing. Apple also introduced services to help move more (and costlier) music—iTunes LPs, Complete My Album, preorders, and longer previews.

These, however, are compromises not of weakness, but of practicality and partnership. Apple, thanks to the iTunes Store, continues to have significant clout in the music business. As media production and delivery evolve in the coming years, Apple's influence is certain to be felt throughout the media world.

MacMania 17

British Isles, June 13th – 23rd, 2014



InsightCruises.com/Mac-17

Explore the distinctive cultures of the British Isles

Join MacMania as we explore the green landscapes and ancient traditions of England, Ireland, Scotland, and Wales. Connect with friends aboard the Celebrity Infinity roundtrip Harwich, England June 13 – 23, 2014

Juicy chunks of info

Mastering the iPad, digital photography, security, disaster recovery, and the cloud. Visit the Beatles hometown! Relax amidst the British Isles' timeless atmosphere. Questions? Contact Concierge@InsightCruises.com. We hope to welcome you aboard!



For a full listing of seminars visit
InsightCruises.com/Mac17-seminars

Speakers include:

- Joe Kissell • Bob LeVitus
- Chris Marquardt • Don McAllister
- Sal Soghoian • Derrick Story
- Bebo White



Pre-cruise: Windsor Castle, The Royal Observatory, and Stonehenge



CO-PRODUCED BY:

Insight Cruises
THE JOURNEY WITHIN

Macworld

Macworld

SENIOR VP/EDITORIAL DIRECTOR Jason Snell

EDITORS Philip Michaels, Dan Miller

EXECUTIVE EDITOR Jonathan Seff

MANAGING EDITOR Kimberly Brinson

DESIGN DIRECTOR Rob Schultz

SENIOR EDITORS Christopher Breen, Jackie Dove, Dan Frakes, Roman Loyola, Dan Moren, Scholle Sawyer McFarland

SENIOR WRITER Lex Friedman

ASSISTANT MANAGING EDITOR Sally Zahner

ASSOCIATE EDITOR Serenity Caldwell

ASSISTANT EDITOR Leah Yamshon

DESIGNERS Liz Marken Fiorentino, Yasmin Vahdatpour

DIGITAL IMAGING SPECIALIST Mike Homnick

SENIOR COPY EDITORS Stephen Compton, Steven Gray, Tracy Yee-Vaugh

COPY EDITORS Sushmita Mitra, Gail Nelson-Bonebrake

EDITORIAL INTERN Albert Filice

SENIOR CONTRIBUTORS Adam C. Engst, Glenn Fleishman, Rob Griffiths, John Gruber, Jim Heid, Andy Ihnatko, Joe Kissell, Ted Landau, Rick LePage, Ben Long, Kirk McElhearn, John Moltz, John Siracusa, Derrick Story

DIRECTOR, MACWORLD LAB James Galbraith

LAB MANAGER Tony K. Leung

EDITORIAL ASSISTANT Chris Southard

LAB INTERN Leonard Lal, Jeff Sandstoe

SENIOR PRODUCER Zack Stern

VIDEO PRODUCER Carlos Rodela

VIDEO EDITOR Victor Schwank

CONTRIBUTING PHOTOGRAPHER Peter Belanger

CONTRIBUTING DESIGNER Lori Flynn

HOW TO CONTACT MACWORLD SUBSCRIPTION SERVICES

Access your subscription account online—24 hours a day, 7 days a week—at www.macworld.com/customer_service or service@macworld.com. You can use online subscription services to view your account status, change your address, pay your bill, renew your subscription, report a missing or damaged issue, get the answers to frequently asked questions, and much more.

To start subscribing, visit subscribe.macworld.com.

U.S. MAIL Macworld Subscriptions Department
P.O. Box 37781, Boone, IA 50037-0781
(If you are writing about an existing account,
please include your name and address as they
appear on your mailing label.)

EMAIL subhelp@macworld.com (Send your full name and the
address at which you subscribe; do not send attachments.)

FAX 515/432-6994

PHONE 800/288-6848 from the U.S. and Canada,
515/243-3273 from all other locations

The one-year (12-issue) subscription rate is \$34.97; the two-year rate, \$59.97; and the three-year rate, \$79.97. Foreign orders must be prepaid in U.S. funds; add \$10 per year for postage to Canada or \$20 per year for air freight to all other countries. Checks must be made payable in U.S. currency to Macworld. Please allow 3 to 6 weeks to receive your first issue or for changes to be made to an existing subscription.

SUBSCRIBERS: If the Postal Service alerts us that your magazine is undeliverable, we have no further obligation unless we receive a corrected address within one year.

MACWORLD EDITORIAL

The editors of Macworld welcome your tips, compliments, and complaints. Some stories and reviews from past issues can be located at www.macworld.com. We are unfortunately unable to look up stories from past issues; recommend products; or diagnose your Mac problems by phone, email, or fax. You can contact Apple toll-free, at 800/538-9696, or visit the company's website, at www.apple.com. For editorial and advertising contact information, please turn the page.

August 2013, Volume 30, Issue 8

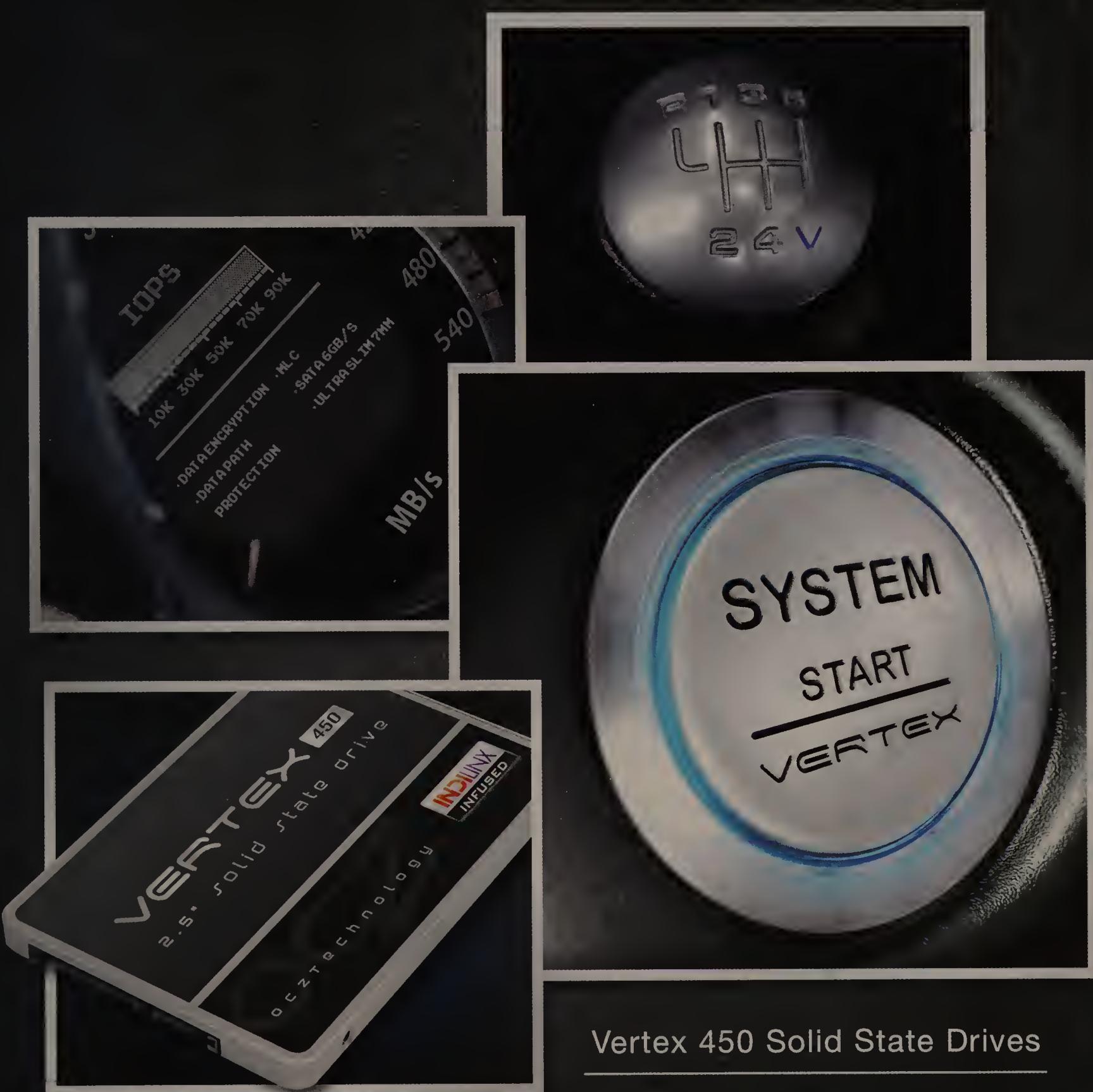
Macworld is a publication of IDG Consumer & SMB, Inc., and International Data Group, Inc. Macworld is an independent journal not affiliated with Apple, Inc. Copyright © 2013, IDG Consumer & SMB, Inc. All rights reserved. Create, Playlist, Mac User, Macworld, and the Macworld logo are registered trademarks of International Data Group, Inc., and used under license by IDG Consumer & SMB, Inc. Apple, the Apple logo, Mac, and Macintosh are registered trademarks of Apple, Inc. Printed in the United States of America.

IDG
INTERNATIONAL DATA GROUP

INTERNATIONAL DATA GROUP CHAIRMAN OF THE BOARD
Patrick J. McGovern

IDG COMMUNICATIONS, INC. CEO
Bob Carrigan

Finally, the **drive** you've been waiting for...



Vertex 450 Solid State Drives

Here's your ticket to a faster Mac. The Vertex 450 Series dramatically accelerates your gaming, content creation, and multimedia applications, all while driving an improved overall computing experience. Get ready for hard-drive humiliating performance that is ideal for today's high-end consumers and client applications.

OCZ

ocz.com

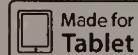
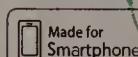
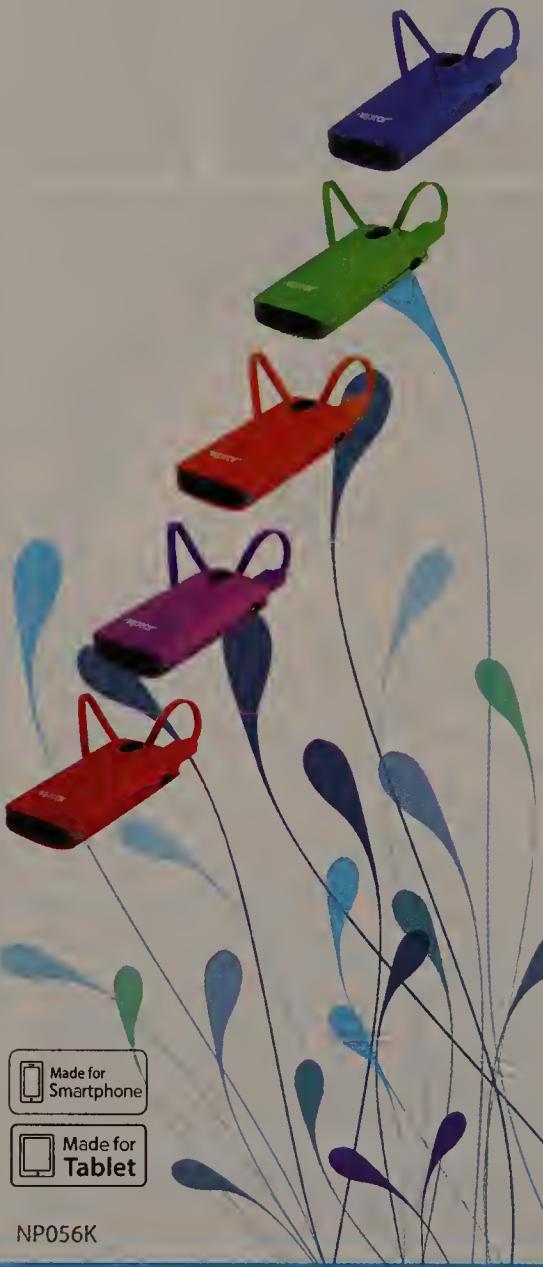
INNOVATION
with a Passion for Performance



External Battery Pack

With Dual USB Outputs

Stay Powered
Wherever You Go



NP056K



"scan the QR code to get rebate
and win gift for your holiday"
www.eagletechusa.com

Product information please contact
marketing@eagle-techusa.com

Macworld

CHIEF EXECUTIVE OFFICER

Peter Longo

VP, SALES & MARKETING

Scott Harris (415/267-4578)

ACCOUNT DIRECTORS

Kathy Rebello (508/820-0440)
Amy Singer (201/634-2317)
David White (415/243-3664)

SALES MANAGERS

Duane Hampson (415/978-3133)
Jacob Herstein (312/882-2508)

ACCOUNT EXECUTIVE

Paul Moretti (415/243-3575)

ACCOUNT COORDINATORS

Jennifer Lam (415/978-3271)
Shari Redan (207/899-2099)
Chrissy Schneider (415/978-3269)

EXECUTIVE EDITOR, CONTENT MARKETING

Michael Ansaldo

ASSOCIATE EDITOR, CONTENT MARKETING

Matthew O'Connell

PROGRAM DEVELOPER

Tina Marfori

PROJECT MANAGER, SALES

Nelson Hong

MARKETING MANAGER

Jim Hopkins

RESEARCH MANAGER

Miguel Beteta Rodrigo

SVP, DIGITAL PRODUCTS

Ulla McGee

VP, AUDIENCE DEVELOPMENT & PRODUCT MANAGEMENT

Alexa Wiggins

DIRECTOR, PRODUCT MANAGEMENT

David Lake

SENIOR PRODUCT MANAGER

DW Malouf

CONSUMER MARKETING MANAGER

Randall Grilli

BUSINESS DEVELOPMENT MANAGER

Kristen Silvi

PRODUCT MANAGER

Lauren Wakefield

NEWSLETTER SERVICES MANAGER

Michael E. England

MANAGER, PARTNER & OFFICE AFFAIRS

Caroline Ward

DIRECTOR, ONLINE DESIGN

Sky Collins

WEB PRODUCER

Ryan Medlin

CTO, IDG COMMUNICATIONS, INC.

Aaron Jones

SENIOR DIRECTOR, SOFTWARE ENGINEERING

Thomas Alexander

CHIEF ARCHITECT

Jim Hutson

PRINCIPAL SOFTWARE ENGINEER

Justin Counts

SENIOR SOFTWARE ENGINEERS

Alexis Barrera, Bill Cappel, Alejandro Germenos, Byron Halbower

QA ENGINEER

Eric Pivnik

SENIOR DIRECTOR, IT & WEB OPERATIONS

Sean Greathouse

SENIOR WEB OPERATIONS ADMINISTRATOR

Andrew Trice

DIRECTOR, PRODUCTION

Nancy Jonathans

PREPRESS MANAGER

Tamara Gargus

SVP OPERATIONS

Tom McGrade

VP, BUSINESS INTELLIGENCE

Ferdinand David

HOW TO CONTACT MACWORLD STAFF

Our offices are located at 501 Second Street, 6th Floor, San Francisco, CA 94107; phone, 415/243-0505; fax, 415/243-3545. *Macworld* staff can be reached by email at firstname.lastname@macworld.com.

LETTERS TO THE EDITOR

Send comments about any aspect of *Macworld* to letters@macworld.com. Due to the high volume of mail we receive, we can't respond to each letter. We reserve the right to edit all submissions. Letters published in *Macworld* or on Macworld.com become the property of IDG Consumer & 5MB, Inc.

BACK ISSUES OF MACWORLD

Starting with the March 2003 *Macworld*, back issues can be downloaded in digital format, from www.zinio.com (\$6.99; Mac OS X 10.1 or later required). Print-format back issues (subject to availability) cost \$8 per issue for U.S. delivery, and \$12 for international delivery; prepayment in U.S. currency to *Macworld* is required. Send a check or money order to *Macworld* Back Issues, P.O. Box 37781, Boone, IA 50037-0781; or phone 800/288-6848 (U.S. and Canada) or 515/243-3273 (all other locations).

REPRINTS AND PERMISSIONS

You must have permission before reproducing any material from *Macworld*. Send email to permissions@macworld.com; please include a phone number.

MAILING LISTS

We periodically make lists of our customers available to mailers of goods and services that may interest you. If you do not wish to receive such mailings, please write to us at *Macworld*, P.O. Box 37781, Boone, IA 50037-0781, or email us at subhelp@macworld.com. Please include a copy of your mailing label or your full name and address.

MACWORLD | iWORLD CONFERENCE

As the flagship sponsor of the Macworld | iWorld conference, *Macworld* encourages all subscribers to attend this exciting annual industry event. For information, please visit www.macworldiworld.com.





Bill Goldsmith
-Radio Paradise Internet Radio



Designed in California
Made in U.S.A.

Pro Podcasting. Made Easy.

Apogee MiC - Studio-quality microphone
for iPad, iPhone & Mac

Built upon Apogee's 28 year award-winning history in digital audio, MiC captures exceptional sounding podcasts, voice-overs and interviews directly to your iPhone, iPad or Mac. Simply plug in and podcast, no complicated setup required.

Find out more about MiC and other amazing
Apogee products at www.apogeedigital.com



Apogee Quartet, Duet, ONE,
MiC, and JAM are iPhone, iPad,
and Mac compatible.



APOGEE

The iPad Office

Our Macs and iPads are pretty great for browsing the Internet and helping us create our masterpieces, but sometimes we need to hunker down and work. This month, our readers reflect on their devices as work tools, and chime in on Twitter about their favorite work apps.

DOES OFFICE FOR iOS REALLY MATTER?

Of course John Moltz doesn't think anyone needs Microsoft Office on iOS ("Don't Fear the Touchscreen MacBook," *Spotlight*, May 2013). He admits he doesn't use it on other platforms either, so how would he know? The Office-using world would love to ditch the laptop, but not if they can't still run Office. John points out Microsoft sells a ton of copies of Office—so why does he think those same people who buy so many copies wouldn't want it on their iPad? Sorry, you've got it wrong there, John.

The fact that Pages and Numbers are too limiting is the main reason I just bought a Retina MacBook Pro instead of upgrading my first-generation iPad. It's

also one reason why tablets are not adequate for professionals like me who create content. Office on iOS is essential, or the iPad will not evolve as the primary computer of choice. Using Office virtually over a Citrix receiver or similar is like jogging in molasses. I'm giving my iPad to my teenage son and sticking with a MacBook that runs Office.

Gregg T. Logan, via email

Does Office for iOS matter? The larger question is: Does Office for all of Apple's OSs matter? I would not have been able to operate a business without access to Office. Journalists and writers seem to have numerous alternatives available to them as writing tools, but for small

WHAT'S YOUR FAVORITE WORK APP ON THE MAC?

Readers name the apps that really help them get their work done.

• @lauraimes: Evernote, definitely! Getting work done means being organized to me, as well as planning ahead. I also love the syncing feature!

• @DarrenMcNaney: Using Adobe CS6 is the core of my work, but Dropbox has become an essential part of the way I work, share, and exchange files with clients.

• @_FFY_: TextWrangler! It supports almost every document type.

businesses, who must interact with larger businesses, it would be impossible to operate without Excel and Word. Being cavalier about the need for Office for any OS is simply to paint oneself into the proverbial corner. Apple needs to be inclusive, not exclusive.

Frank Bergman, via email

USING AN EXTERNAL KEYBOARD WITH AN iPad

If you use your iPad and Mac together, you can share your Mac's keyboard with your iPad. I use an app called Type2Phone (\$5 in the Mac App Store; go.macworld.com/type2phone) to share my MacBook Pro's keyboard with my iPad and iPhone.

brianbeam, via Macworld.com

A keyboard without an iPad function key capability to reduce the times you have to reach to touch the screen is a waste of time.

jrperser, via Macworld.com

All reader communications to *Macworld*—through mail, email, our social networking accounts, and our online forums—are presumed to be intended for publication. We reserve the right to edit them.

THROUGH THE LENS: HIDDEN IN PLAIN iSIGHT

Reader Angel Love's workplace may not permit Macs, but it still has some Apple representation. He says: "I put the Apple sticker on my company-issued laptop. I hope that one day Apple laptops will be a corporate staple, at least in my industry."

Have a great Apple-centric photo? Send it to letters@macworld.com, and we may feature it in a future issue.





DUO
STAND. DOCK. STORAGE.

Exclusively at the Apple Store

iPhone and iPad are registered trademarks of Apple Inc. All trademarks are property of their respective owners.

MacUser

News and Analysis About Macs, OS X, and Apple

OS X Catches a Wave: Apple Previews OS X Mavericks

BY SERENITY CALDWELL

Apple's new OS X Mavericks—unveiled in June at the Worldwide Developers Conference, shipping to users this fall, and named after the famous surfing spot in Northern California—offers a host of improvements. Here are several that we're looking forward to the most:

Finder Tabs

If you use tabs in Safari, Finder tabs will feel very similar; Apple has applied the same basic window structure, allowing you to combine multiple Finder windows into a single window with tabs along the top. You can even move files from one tab to another by dragging and dropping.

Tags

Tags are OS X Mavericks's answer to the Labels options of yore; you can tag files that are both stored in iCloud and on your local machine. You can also add tags when saving documents: Just select an already-used tag or invent one on the spot. After you do, tags show up in your Finder sidebar. To add a tag to older documents, drag them into the tag category in the Finder sidebar. Tags have also been incorporated in Finder's search feature.

Multiple Displays

Mavericks's multiple-display features improve greatly upon the lackluster offerings found in Lion and Mountain Lion.

Mavericks will provide support for full-screen apps on screen number one and desktop display on screen number two, multiple menu bars and Dock items for each display, dragable full-screen apps, independent display support for Mission Control and Spaces, and second-screen support for AirPlay-connected HDTVs.

New and Improved OS X Mavericks includes new iBooks for Mac and Maps apps, as well as improvements in Notifications.

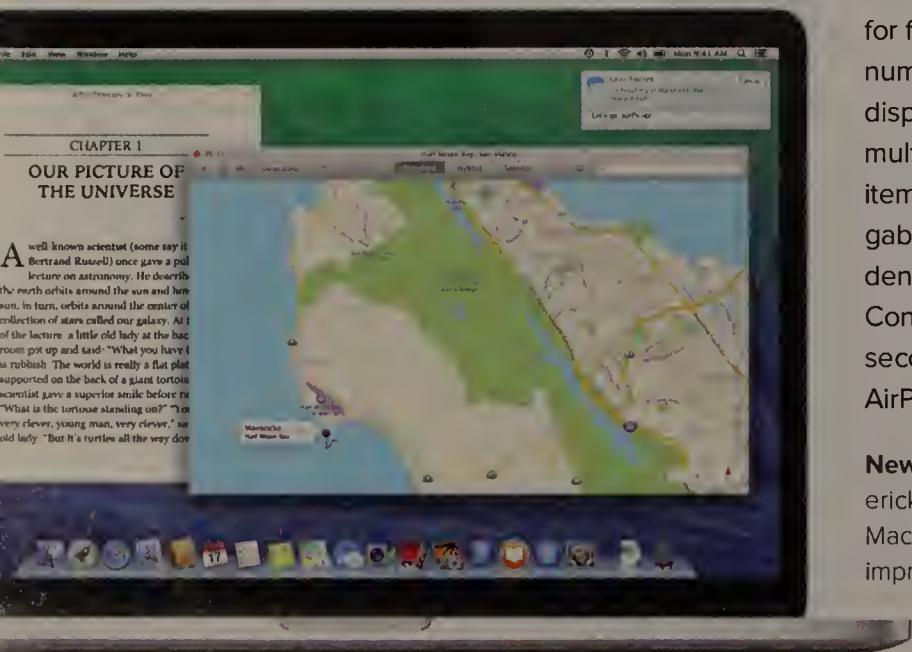


Under the Hood

Mavericks has improved scrolling across the board, offering smoother and faster acceleration inside apps. Its App Nap reduces power to apps when they're not in the forefront. The new support for compressed memory takes inactive memory and compresses it to make free space available quickly. The new iCloud keychain offers a secure silo to store your logins, Wi-Fi network passwords, and account information. And Safari has received a giant under-the-hood overhaul that promises new speed and graphics acceleration.

New Apps: Maps and iBooks

Maps for OS X looks very similar to its iOS counterpart, though Federighi declared that the app had seen improvements to its mapping data. Maps on OS X features many of the same options found in iOS, including street maps, 3D cities, flyover, and turn-by-turn directions. iBooks is equally feature-complete, offering the same options available on your iPad, including reading iBooks Author books and taking notes.



The Wait Is Nearly Over: Apple Unveils New Mac Pro

BY ROMAN LOYOLA

ntroduced at Apple's Worldwide Developers Conference in June, the new Mac Pro desktop workstation features a sleek, cylindrical design that's a stark contrast to the mammoth, roomy aluminum tower introduced with the Power PC-based Power Mac G5 in 2003.

The new 9.9-inch-tall Mac Pro case is about one-eighth the size of the Mac Pro tower. The modern aluminum design is based around a "unified thermal core" to help keep the machine cool.

At the heart of the Mac Pro is a Xeon E5 processor. Configurations with 12 cores will be available, and all Mac Pro systems will employ third-generation PCI Express architecture. Apple is also using 1866MHz ECC DDR3 RAM.

The machine will have dual AMD FirePro workstation-class GPUs, and it will be able to run three 4K displays at one time. Apple says the new Mac Pro is 2.5 times faster than its predecessor in graphics performance.

Apple will also outfit the machine with PCIe-based flash memory, and not traditional SATA hard drives or solid-state drives. Apple touts speeds of 1.25 GBps for reads and 1.0 GBps for writes. The company did not give specifics as to the amount of storage available.

Thunderbolt 2

The new Mac Pro will have Thunderbolt 2, the latest iteration of Intel's Thunderbolt technology that supports data rates of 20 gbps. Each Thunderbolt 2 port supports up to six daisy-chained devices; with six Thunderbolt 2 ports, the Mac Pro can support up to 36 Thunderbolt peripherals. Thunderbolt 2 will be a critical technology for new Mac Pro users—it will provide connectivity for legacy devices.

The most remarkable change with the Mac Pro is the elimination of expansion slots. Current owners who have filled all of their Mac Pro's slots and still need to use their cards will have to invest in an external Thunderbolt expansion chassis that will house the cards and connect to the new Mac Pro through Thunderbolt.

Also, with the elimination of the optical drive from the Mac mini, iMac, MacBook Air, and Retina MacBook Pro, it's not a surprise to see the optical drive dropped from the Mac Pro. Current Mac Pro owners who have and need optical drives will have to turn to external USB options.

Apple said that the new Mac Pro will ship later this year and will be made in the United States. Prices were not disclosed.



New MacBook Airs Offer All-Day Battery Life

BY JACKIE DOVE

Based on a new fourth-generation Core processor called Haswell ULT, the new MacBook Air features significantly longer battery life, faster graphics performance, improved wireless networking, and greater energy efficiency.

Designed for power savings, with more energy-efficient Intel Core i5 and Core i7 CPUs, the new MacBook Airs have a slower clock speed while still delivering 40 percent faster graphics performance, Apple says.

The 11-inch MacBook Air improves from 5 hours of battery life to 9 hours, with a standby time of up to 30 days. The 13-inch MacBook Air model goes from 7 hours to 12 hours of battery life.

The MacBook Air's new Intel HD Graphics 5000 hardware offers up to 40 percent faster performance for games and for graphics-intensive programs, while the new flash storage offers speeds up to 45 percent faster than the previous generation and nine times faster than traditional hard drives, according to Apple.

The MacBook Air comes in an 11-inch model, starting at \$999 with 128GB flash storage. A second 11-inch version includes 256GB of storage for \$1199. The 13-inch MacBook Air also comes in 128GB and 256GB capacities, which cost \$1099 and \$1299, respectively.

Six Famous Windows Apps That Debuted on the Mac

BY BENJ EDWARDS

Windows remains the dominant desktop operating system in terms of market share. So it's especially entertaining to look back at venerable software applications that originated outside of the Windows biosphere (say, on the Mac) and then moved over to thrive in Microsoft's domain.

A number of the most-famous apps to make the Mac-Windows jump began as graphical user interface-based reinterpretations of older software ideas, while others began as programs that could have originated only in a bitmapped computing environment like that of the Mac. We take a look at a handful here.

Microsoft Excel

Windows users may be surprised to learn that Excel made its debut in September 1985 as a stand-alone Mac program. At the time, Lotus 1-2-3 ruled the spreadsheet market on the IBM PC platform, and as Windows gained influence, Excel received its first version for Microsoft's GUI system in November 1987. Lotus 1-2-3 lagged with a Windows version, and Excel soon captured the PC crown. Microsoft continues to offer Excel in both Mac and PC versions.

Macromedia Dreamweaver

Macromedia's flagship HTML development product launched as a Mac-only application in December 1997 and soon became popular thanks to its implementation of

"what you see is what you get" (WYSIWYG) principles for Web development. Dreamweaver received its first Windows release—version 1.2—in March 1998. After Adobe acquired Macromedia in 2005, Dreamweaver became an Adobe product.

Forethought PowerPoint

The software firm Forethought initially developed PowerPoint under the name Presester for the Mac in 1986. It was a desktop presentation program that allowed the creation of graphical software slides through WYSIWYG editing. Microsoft acquired Forethought in 1987, and PowerPoint became a shipping product for the Mac that same year. Three years later, it found its way into the Microsoft Office suite.

Aldus PageMaker

In July 1985 Aldus shipped PageMaker, one of the first desktop publishing applications for the Mac. Its WYSIWYG interface allowed users to design publications that fit the Mac's bitmapped display and mouse-based input perfectly. Windows received its first version of PageMaker in 1987. Adobe acquired Aldus in 1994, and PageMaker remained a popular Adobe product until QuarkXPress (which also originated as a Mac app) surpassed it in market share.

Forethought FileMaker

In the 1980s, database software was complex to learn and operate. Nashoba Systems envisioned a more-flexible



Excel Today's popular number-crunching member of Microsoft's Office suite originated in 1985 as a stand-alone application.

database that used a menu or GUI interface and dynamically sized entries. FileMaker was born, and Nashoba signed a deal with Forethought to publish the application. The first version shipped for the Mac in April 1985. In 1987 Microsoft acquired Forethought, and Nashoba decided to publish FileMaker on its own. Then in 1988, Claris (then a wholly owned subsidiary of Apple) acquired Nashoba. FileMaker Pro 1.0 was released in 1990, and Windows got its first version of FileMaker in 1992. In 1998 Apple disbanded Claris and rolled the product into its own company, FileMaker, Inc.

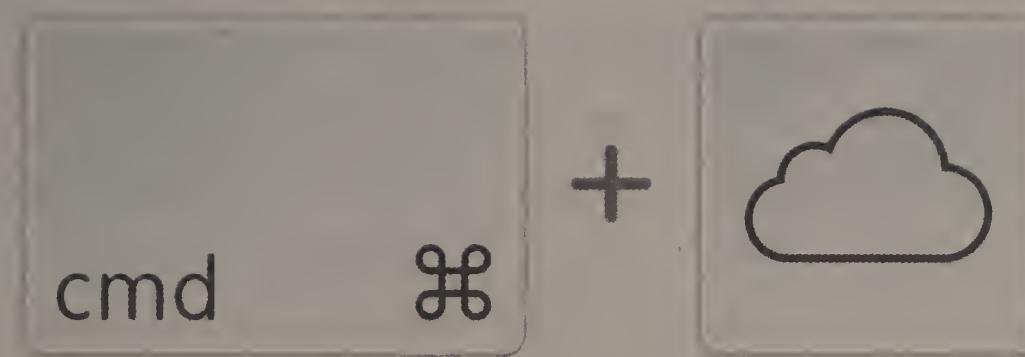
Adobe Photoshop

This application began as a mouse-based image-editing utility developed by Thomas and John Knoll on the Mac in the late 1980s. Seeing the usefulness of their creation, they began to seek a licensee who could distribute the software. Adobe agreed to license the software, and Photoshop 1.0 shipped in February 1990. Windows did not receive a version of Photoshop until version 2.5 in November 1992—more than two years later.



PageMaker
Windows got its first version of the desktop publishing app in 1987.

Try Us
FREE



It's cloud storage made simple.

- ✓ 100% Automated
- ✓ Sync Multiple Computers
- ✓ Access Files Anywhere
- ✓ 256 Bit Secure Encryption
- ✓ Share Files with Friends
- ✓ Free iPhone, iPad & Android app



zipcloud

www.zipcloud.com/macworld

Try us Free!

Apple Tops Survey on Tech Support

BY DAN MOREN

If you're looking to keep a computer running smoothly, Apple is the one to turn to, says *Consumer Reports*.

Recently the publication announced that Apple had once again topped a reader survey of the best computer tech support.

Apple beat out competitors Lenovo, Asus, Dell, Toshiba, HP/Compaq, and Acer/Gateway/eMachines by a healthy margin, scoring an 86 out of 100, which the publication describes as "very satisfied." The next-closest brand was Lenovo, which scored only a 63, or "fairly well satisfied."

According to *Consumer Reports*' data, Apple also solved a best-in-category 82 percent of readers' problems; the nearest PC brand was Dell, which reported 61 percent of problems solved. One wildcard? The second-place result fell to local stores that built custom PCs; these companies

scored a 78 out of 100 on *Consumer Reports'* scale and solved 71 percent of problems brought to their attention.

Apple was also the only brand with positive standing in the phone support and online support categories, achieving "better" ratings in both; most of the company's rivals registered the lowest possible rating in those areas. The Apple Store's Genius Bar also took home top honors for in-store support, solving 88 percent of problems, versus 73 percent for Staples' EasyTech and 70 percent for Best Buy's Geek Squad.

The data is based on a survey of *Consumer Reports* Online subscribers in January 2013, covering technical support over the 12 months prior to the survey.

In the company's most recent quarter, Apple shipped just under 4 million



Tech Support Apple Store's Genius Bar took the top spot in the Consumer Reports survey.

Macs and, even down 2 percent year-over-year, it outperformed the PC market as a whole. Apple's reputation for good tech support and reliable products could certainly be part of the equation in keeping the company's sales strong.

Macs: Current Lineup

PRODUCT	SPECS	RATING	PRICE	DISPLAY	SPEEDMARK 8 ¹	MORE INFO
DESKTOP						
iMac	Intel Core i5/2.7GHz (quad-core)	4½	\$1299	21.5 inches	194	go.macworld.com/imac212712
	Intel Core i5/2.9GHz (quad-core)	4½	\$1499	21.5 inches	204	go.macworld.com/imac212912
	Intel Core i5/2.9GHz (quad-core)	4½	\$1799	27 inches	238	go.macworld.com/imac272912
	Intel Core i5/3.2GHz (quad-core)	4½	\$1999	27 inches	224	go.macworld.com/imac273212
Mac Mini	Intel Core i5/2.5GHz (dual-core)	4½	\$599	Not included	131	go.macworld.com/mini2512
	Intel Core i7/2.3GHz (quad-core)	4½	\$799	Not included	164	go.macworld.com/mini2312
Mac Pro	Intel Xeon/3.2GHz (quad-core)	4½	\$2499	Not included	200	go.macworld.com/macpro3212
	Intel Xeon/2.4GHz (12-core)	4½	\$3799	Not included	215	go.macworld.com/macpro2412
PORTABLE						
MacBook Air	Intel Core i5/1.3GHz, 128GB	n/a	\$999	11 inches	n/a	go.macworld.com/air1281113
	Intel Core i5/1.3GHz, 256GB	n/a	\$1199	11 inches	n/a	go.macworld.com/air2561113
	Intel Core i5/1.3GHz, 128GB	n/a	\$1099	13 inches	n/a	go.macworld.com/air1281313
	Intel Core i5/1.3GHz, 256GB	n/a	\$1299	13 inches	n/a	go.macworld.com/air2561313
MacBook Pro	Intel Core i5/2.5GHz (dual-core)	4½	\$1199	13 inches	121	go.macworld.com/macbook132512
	Intel Core i7/2.9GHz (dual-core)	4½	\$1499	13 inches	153	go.macworld.com/macbook132912
	Intel Core i7/2.3GHz (quad-core)	4½	\$1799	15 inches	161	go.macworld.com/macbook152312
	Intel Core i5/2.5GHz (dual-core) 128GB	4½	\$1499	13-inch Retina	184	go.macworld.com/macbookret13128
	Intel Core i5/2.6GHz (dual-core) 256GB	4½	\$1699	13-inch Retina	190	go.macworld.com/macbookret132613
	Intel Core i7/2.4GHz (quad-core)	4½	\$2199	15-inch Retina	270	go.macworld.com/macbookret152413
	Intel Core i7/2.7GHz (quad-core)	4½	\$2799	15-inch Retina	284	go.macworld.com/macbookret152713

n/a = Not available. ¹Speedmark 8 is Macworld Lab's standard test tool for benchmarking systems running Mac OS X 10.8 (Mountain Lion). For more information, see go.macworld.com/peet.



WILLIAM, THE BUSINESS TRAVELER

"This is my life, Neat."

► Neat helps my small business run smoothly.

We file everything with Neat. We keep digital copies of all our receipts, and run reports to help manage costs. Expenses, payments – we have records of them all in Neat. Plus it's great for taxes!

► All my important files are at my fingertips.

NeatCloud lets me scan with my phone, access my Neat files from anywhere, and be just as productive on the road as I am at the office. I can even see the things my business partner scans in while I'm away – and vice versa.

► Paper doesn't weigh me down on the road.

Business cards, receipts, contracts – I can scan them in as I get them, and I can get rid of the paper without losing the information. At the office or on the go, nothing helps me stay organized and paper-free like Neat.

► See more user stories at neat.com/mwbt



FREE
30-DAY
TRIAL

ORDER NOW AND GET A FREE 30-DAY TRIAL OF

NeatCloud™ + NeatMobile™

► neat.com/mwbt ► 866-395-8717

 **neat**®

Tech Advice: When Your Mac Takes a Fall

BY CHRIS BARYLICK

If you've never heard that noise before, you're bound to hear it someday: that dull crunch as your Mac slips out of your hands or off a desk and makes a date with the ground.

Here's how to make the best of a terrible situation, get as much of your data back as possible, and avoid a similar disaster.

Pick It Up, Clean It Off

Survey the damage, and clean up whatever dirt and detritus you can. Make sure your Mac is turned off, and then weigh your options. If you feel comfortable opening the machine, find a wrist strap and tools, touch a metal object to discharge any static your body may be carrying, and carefully open the Mac to check inside for fragments, damaged parts, or debris. Don't turn the Mac on; just focus on the parts that survived the fall and anything that might appear damaged. If you don't feel comfortable opening a Mac, online guides such as iFixit (www.ifixit.com) can help. Or you can consult the Apple Authorized Service Provider Locator (locate.apple.com/au/en/) to find the nearest Apple Store or service provider.

The First Boot Is Your Best Chance

Whether you're working with a potentially damaged hard drive inside the computer or you removed the drive and placed it in an external casing, the first boot is the most critical. Use the drive gently, and don't try to copy too much data at once.

The Deep-Freeze Last Resort

If you're dealing with a physically damaged conventional hard drive, putting it in a sealed bag and inserting it in a freezer for at least an hour may temporarily contract the drive's overheated, overexpanded



metal parts back into place. If that happens, the drive can be mounted and will function normally enough to let you pull data from it. This move won't damage the drive any further and it may pull off a miracle.

Back Up the Users Folder

The Users folder is where most of your critical stuff lives. Locate the folder (*Hard Drive* → *Users*) and then slowly copy data from it, one file or one small folder at a time.

The Pricey-but-Worth-It Approach

Alsoft's \$100 DiskWarrior (www.alsoft.com/diskwarrior) is a great application for taking a damaged hard drive and rehabbing it to a point where you can recover its data. Prosoft Engineering's \$99 Data Rescue 3 (go.macworld.com/datasave3) lets you mount and work with drives that may be too damaged to mount under OS X. It can also help you work around damaged sectors on the drive to recover every salvageable chunk of data. Between these two apps, you can recover an

After the Fall Keep calm, take care of your data, store your backups in safe locations, and you'll be all right.

amazing amount of data if the drive's mechanical functions are still working.

No Matter What, Back It Up

Back up your data to multiple destinations—to iCloud, to a flash drive, to an external hard drive via Time Machine, and elsewhere. Hard-drive storage is cheap and backup services are affordable.

The SSD Option

Besides speed, a solid-state drive has one distinct advantage over a regular hard drive: It has no moving parts and is therefore essentially shock-proof. An SSD isn't invincible, but it can operate under a wider range of temperatures and can endure thumps more readily. Look into upgrading your Mac's main drive with an SSD.

Bite the Bullet: Data Recovery

Prices for professional data recovery tend to run high, but this method usually works. Send your drive to a recovery outfit like DriveSavers (go.macworld.com/drivesavers), and its technicians will disassemble the drive and replace malfunctioning parts in a clean-room environment. It's the best route for retrieving all physically recoverable data from a damaged drive.

The Users folder is where most of your critical stuff lives. Locate the folder and then slowly copy data from it.



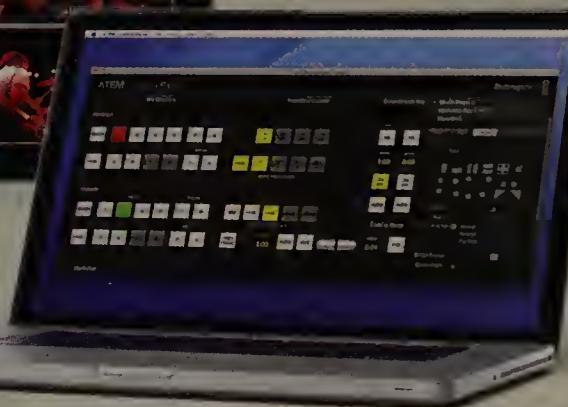
NOW WITH
AUDIO MIXER
FREE UPDATE

Consumer cameras are low cost and give you full 1080HD video! Imagine your event in full HD!



See all your cameras and program video output using a single TV with the built in multi view.

Includes control software for Mac and PC plus Photoshop plug ins for direct graphic downloads.



Rack mount design lets you install into road cases for portability.

HDMI inputs let you plug in HD video cameras or computers for slide shows!

You can even plug in broadcast cameras using the SD/HD-SDI inputs.

USB 2.0 connection lets you record direct to H.264 files for iPhone, iPad and web. Includes Media Express.

SDI and HDMI program outputs for sending your live program feed to your audience!

Ethernet lets you plug direct to your computer for control and uploading graphics.

If you've ever wanted to get into the television industry, then here's how!

Enter the exciting world of live television production with the new ATEM Television Studio! Simply plug in up to 8 cameras with HDMI or SDI connections and ATEM will re-sync the video and allow transitions, effects, graphics, animations, chroma keying, all completely live, and at the push of a button! Unlike editing software, live production is the most exciting, lowest cost, and fastest way to generate professional programs. You can even broadcast live to your audience and over the internet!



Live Creative Power

ATEM Television Studio operates as a professional M/E style switcher, so you can take your skills into any broadcast TV station! You get the most creative solution for live switching, with cut, mix, wipe, dip and more!

You can even load graphics directly from Adobe Photoshop into the 2 built in media players for live keying!



Incredible Features

Only ATEM includes upstream chroma key for green and blue screen shooting. You also get pattern, shaped and linear keying, 2 downstream keyers, 2 built in media players and more! The built in multi view allows all cameras, preview and program to be viewed on a single SDI or HDMI monitor or television, so ATEM is perfect for portable location use! Now you can cover any live event, anywhere!



More Connections and H.264

ATEM Television Studio includes loads of SDI and HDMI connections for professional SDI cameras or HDMI consumer cameras! All inputs feature re-sync so you can plug in anything! You also get SDI and HDMI outputs, plus built in H.264 encoding for generating files for the internet, iPhone, iPad and more! Imagine live production direct to H.264 QuickTime files for instant viewing!



Built to Perform

ATEM uses a familiar M/E style of operation so you get an instantly familiar workflow that's fast and easy to use. ATEM includes a software based control panel for Mac and Windows! If you need a hardware control panel then simply add the ATEM 1 M/E Broadcast Panel for a true broadcast grade solution. Thousands of ATEM switchers are used today for live broadcast events such as sports, music festivals, drama, reality TV and much more!

**ATEM Television Studio
\$995**



Hot Stuff

What We're Raving About This Month

MacBook Keyboard Super Hero Skin

If you are seriously into superhero comics, the \$12 Super Hero Skin for your MacBook keyboard should furnish you with no end of delight, referencing Batman, Thor, the Punisher, Iron Man, and dozens of other heroes to create a busy, frenetic, and indisputably super keyboard (killerduckdecals.com).

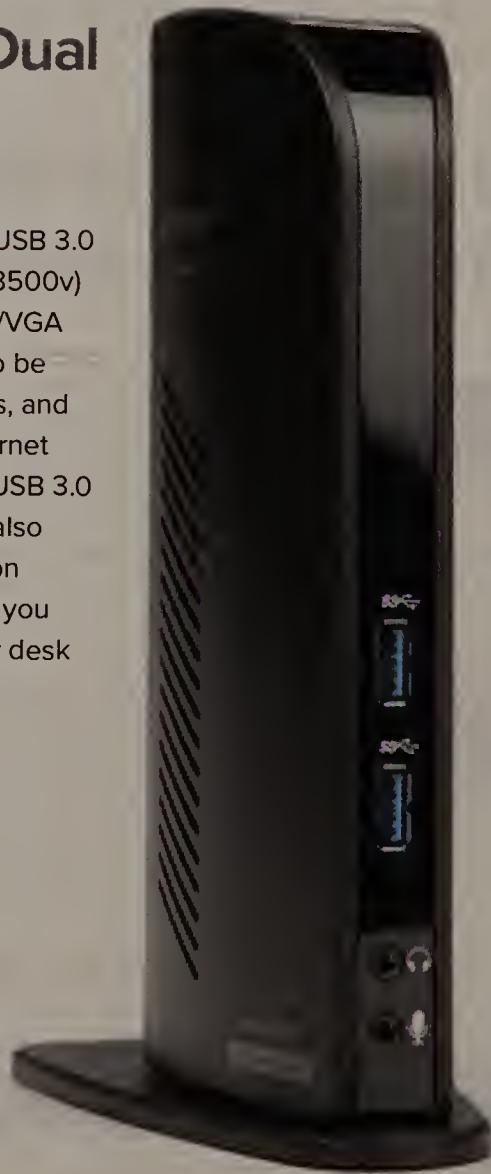
—JOEL MATHIS



USB 3.0 Dual Docking Station

Kensington's \$200 USB 3.0 Docking Station (sd3500v) with Dual DVI/HDMI/VGA Video is designed to be used with MacBooks, and offers a gigabit ethernet connection and six USB 3.0 ports. The slim unit also features a Kensington security lock so that you can secure it to your desk (kensington.com).

—ROMAN LOYOLA



Neutrino Thunderbolt Edition

Akitio's \$340 256GB solid-state drive is bus powered, so you don't need to plug it into a power outlet. The compact, all-aluminum unit comes with one Thunderbolt port and a Thunderbolt cable (akitio.com). —ROMAN LOYOLA



xMac Mini Server

Sonnet's \$1295 1U rack-mount enclosure houses a Thunderbolt-equipped Mac mini. There's also room for a full-length, full-height PCIe card, and a half-length, half-height card. If you need a double-width PCIe card with a daughtercard, Sonnet offers the xMac mini Server 2H (sonnettech.com). —ROMAN LOYOLA



UPDESK

raise your standard

5 things that can shorten your life:

- 1 - elevator music
- 2 - waiting for Windows to reboot
- 3 - running with scissors
- 4 - deep frying anything
- ✓5 - sitting all day, every day

Take control. Ditch the chair. Get an UpDesk®.



WEBSITE

UpDesk.com

Sit-to-Stand Desks
Starting at \$649



eBOOK

*"The Complete Guide
to Breaking Up with
Your Desk"*

Mac Gems

Discover Great, Low-Cost Mac Products **Edited by Dan Frakes**

PRODUCTIVITY

Delineato Pro 1.1

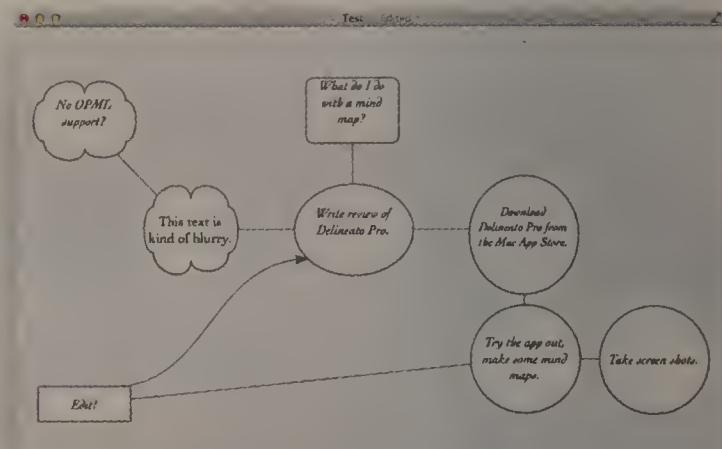
; \$7; Fapptory; delineato.com

An endless array of text editors can capture your notes. But collecting thoughts that are more visual and free-form is trickier. Enter Delineato Pro, a new diagramming and mind-mapping Mac app with a clean design and a lack of visual clutter.

Each Delineato Pro document starts with a limitless gray canvas. To add an item to the canvas, you either double- or right-click to bring up a palette of shapes and lines, and then drag the desired object to the canvas. The program lets you connect shapes in two ways: You can drop a line out of the palette, and then drag each end to connect it to a shape; or you can click a shape, and

then drag one of the pop-up arrows to draw a line to another shape. You also have a number of shapes to choose from, such as clouds, as well as purpose-specific shapes for Concepts, Tasks, and Notes. You also have several lines to choose from, including a curved line that makes just about any diagram look elegant.

Some aspects of Delineato Pro aren't so elegant, though. On my 2011 MacBook Pro, text looked blurry when I used the default light gray background. The program also lacks OPML support, which is the standard



import/export format of most diagramming apps. And it doesn't have a corresponding iOS app. But it does offer plenty of built-in ways to share a drawing, including email, Twitter, Facebook, and even AirDrop.

Delineato Pro is a wonderfully minimal app that needs a bit of polish.—JOSH CENTERS

UTILITY

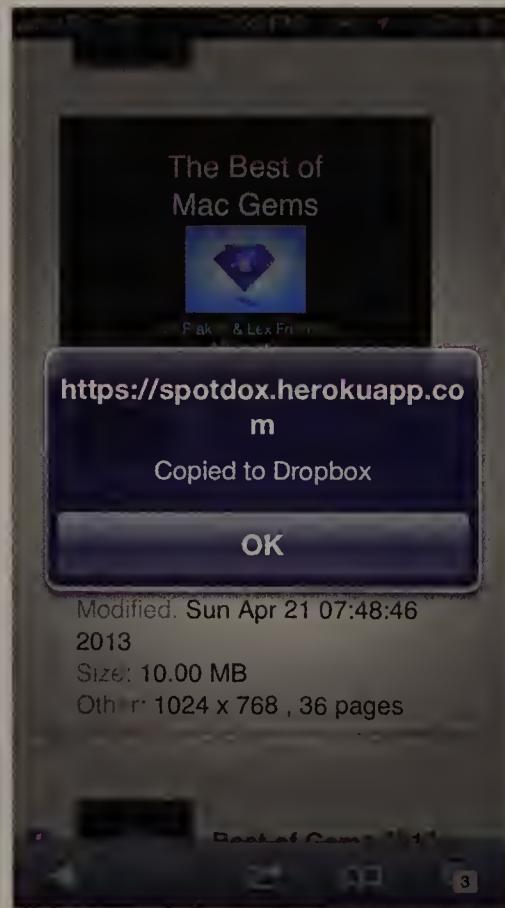
Spotdox 1.0.4

; free (first 10,000 users); [Spotdox; spotdox.com](http://spotdox.com)

I'm a huge fan of Dropbox. But a significant complaint I hear is that it syncs only the files inside the Dropbox folder. If you forget to put a document inside that folder, it won't be available on your other devices. Which is why I've found Spotdox so useful. A combination of a Web service and a Mac app, Spotdox lets you remotely browse the files on your Mac and copy any of them to your Dropbox folder to make them accessible.

The first time you launch Spotdox, it asks for authorization to access your Dropbox account. Once approved, it sits in the background and waits for remote requests. If you have multiple Macs, you can install it on each of them. To always have access to each Mac's files, enable *Open Spotdox At Login* in Spotdox's systemwide menu.

To use Spotdox, you load a special URL



on any of your other devices. You'll be prompted to authorize the Spotdox Web interface to access the Spotdox folder in your Dropbox folder. You'll then see a page showing your Home, Documents, Desktop, and Downloads folders, as well as any connected drives. You can browse these to find the stuff you forgot to copy to Dropbox. Once you've found the file, tap the *Copy To Dropbox* button, and your file will be available on any device with access to your Dropbox folder, on the Dropbox website, and from any Dropbox-enabled app.

Browsing your drive in the Web interface is sluggish, and using the Back and Forward buttons feels clumsy. However, if you rely on Dropbox to keep your files accessible from all your devices, Spotdox will get you out of a self-inflicted jam.—DAN FRAKES

UTILITY

Lost Photos 1.2

★★★; free; \$3 (download unlimited photos); Space Inch; lostphotosapp.com

A utility with a fresh, clean interface, Lost Photos connects to your IMAP email accounts via a secure connection and extracts all the photos from each account quickly and efficiently. Just type your email address and password into the Lost Photos window, and the app sifts through every message on the server, scraping up photos it finds and placing them in a folder, named for that email account, on your drive.

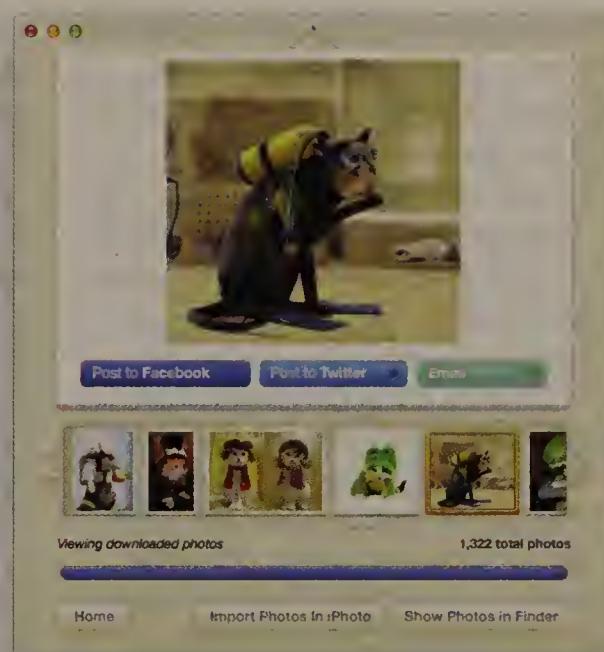
The app provides simple filters to help spare you the agony of viewing every company logo and headshot you receive: For example, it can skip images smaller than 8KB, as well as GIF files. Once Lost Photos finishes its search, it offers buttons for adding all found images to iPhoto or showing your found photos in the Finder (where you can choose to manually import only some of them to iPhoto). You also get buttons for posting your found scuba-kitty images to Twitter or Facebook, emailing

them, or posting them on Flickr.

Lost Photos searches only a single email account at a time, which is a limitation, but that characteristic also makes associating a photo with a particular message easier.

The app, however, works only with IMAP accounts, and it can find images only if they're on the mail server—it does not search your locally filed mail. The images take up space on your drive, too: Lost Photos can't show you previews of images located on your mail server without downloading them first. But you can delete any photos you don't want to keep.

If you get lots of mail with embedded images, and you're not diligent about sorting through and saving the ones you like, you can count on Lost Photos not to miss a shot. The app does not support some major email services such as Hot-



mail, Comcast, and Microsoft Exchange, but the company says it's working on adding support for more mail providers, as well as providing a way to pair images with their original messages.—JACKIE DOVE

PHOTOGRAPHY

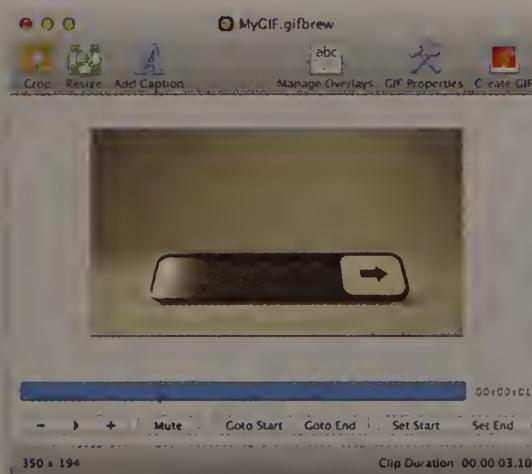
GIF Brewery 2.2

★★★; \$5; Hello, Resolven Apps; hellosolven.com

Animated GIFs have become the de facto standard for Internet memes and funny animations, but they're also useful as alternatives to short video files.

How do you make good animated GIFs? The easiest method I've found is the GIF Brewery. This nifty utility is simple to use, but it offers you an impressive array of features for creating your own animated images.

To create an animated GIF, first you open your source video in GIF Brewery. Its editing window looks much like what you



would see in any standard video-editing app. Buttons in the toolbar let you resize and crop the video. If you don't want to use the entire video in your animated GIF, you simply drag the playhead to where you want your animation to start, and then click Set Start. Drag the playhead to where you want it to end, and then click Set End. You can preview the video at any time by clicking the Play button; but oddly,

instead of playing just your selection, GIF Brewery plays the entire video.

Click the *GIF Properties* button in the toolbar, and you can tweak settings such as frame count, final-frame delay, and the color palette. You can also choose the type of loop. When you're ready to create your animated GIF, just click the *Create GIF* button. GIF Brewery extracts the appropriate frames to make the animated image, and then it shows you a preview of that animation. Click Save to create your animated GIF. Alternatively, you can save the clip as a GIF Brewery file.

Of course, your animated GIF won't be as smooth as the original video, but the end result can be quite good, and GIF Brewery is a snap to use.—DAN FRAKES

PRODUCTIVITY

Delicious Library 3.0.2

\$25; Delicious Monster; delicious-monster.com

If you're not familiar with Delicious Library, the app organizes collections of books, movies, and other media. Essentially, you can scan and add anything with a barcode to the app's customized "shelf."

Delicious Library 3 adds iOS integration in the form of a free mobile app. That app, Delicious Scanner, pairs your iPhone or iPad with your computer over your local Wi-Fi network, letting you use the mobile device's camera as a portable iOS scanner. Users can sync the program with their iTunes account, enabling Apple aficionados to list any audio files, iBooks, and videos stored in or synced with iTunes. The shelves will not, however, include any apps.

Adding e-books, movies, and music collections from Amazon isn't quite as easy, even though the app is tightly integrated

with Amazon, and if you live outside the Apple-Alexa realm, the app offers much less help.

Based on what you already own, Delicious Library 3 generates a list of "recommended" items you might enjoy. You can save these items to a wish list, or click them to be whisked to Amazon.com to purchase them. The app also makes your collection searchable, including by color.

Delicious Library 3 helps you track your media, and it makes a serious attempt to keep up with the digital nature of today's



virtual bookshelves. Nevertheless, the app still needs additional work in order to appeal to those whose collections go beyond the traditional forms of media: books, albums, and DVDs. —JOEL MATHIS

**ZAGG®
KEYS
COVER**

MULTI-ANGLED
ULTRA-SLIM
BACKLIT KEYS
READING MODE

DESIGNED FOR
iPad mini

135° OF VIEWING ANGLES BUILT INTO THE THINNEST KEYBOARD AVAILABLE.

TRY ME.
WWW.ZAGG.COM

QUICK SNAP MAGNETIC COVER

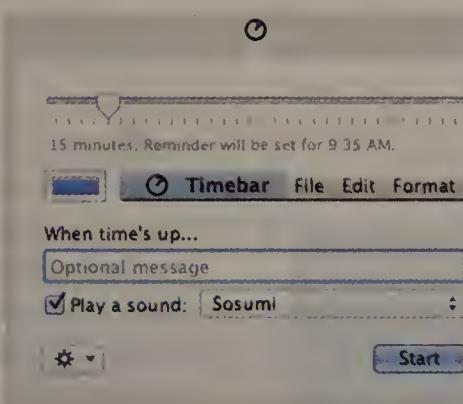
Timebar 1.1

4 stars; \$3; Whimsicalifornia; whimsicalifornia.com

Whimsicalifornia's Timebar is a clever timer app that lives in your menu bar.

To use Timebar, you simply click the *Timebar* icon located in your menu bar, and then drag a slider to set the timer's endpoint. Then click *Start*, and the background of your Mac's menu bar turns blue, fading from right to left until the timer hits zero—much like any standard progress bar. When the timer runs out, it alerts you with a dialog box and, optionally, a sound.

You can set a timer to run for 1 minute, 2 minutes, or in 5-minute increments for up to 4 hours, and thereafter in 30-minute increments for up to 8 hours. I understand the thinking behind this approach, but it limits your flexibility when it comes to choosing a specific timer duration. That said, the developer offers a pair of Timebar extras for setting



timers of any length using Terminal or third-party launchers. And the app is scriptable with a custom URL protocol (`timebar://`), which means that you can create your own means to control it.

Other Timebar options let you tweak the color used in the menu-bar progress bar and change the sound that rings when your

timer is done. You also get an option to snooze the timer when it finishes. (The length of the snooze period, however, is based on the length of the original timer—I'd love having the option to choose a custom snooze duration.) If you click the Timebar menu-bar icon while a timer is running, you get a digital readout of how much time is left. If you right-click that icon while no timer is running, you get quick access to the utility's menu, which includes an option to repeat the previous timer.

If you're just looking for a simple timer, Timebar is an appealing candidate, thanks to its unique approach: It gives you a constant, though subtle, indicator of your timer's status. Though I would have preferred more time controls, Timebar is a helpful utility to keep around.—LEX FRIEDMAN



SPEAK UP.

Our language-learning method actually listens.

If expressing yourself in a new language is your goal, our state-of-the-art speech-recognition technology makes sure you're doing it right. It's highly advanced. Responsive. Always ready to give you the feedback you need to know your pronunciation measures up.

And our technology is proprietary—so you won't find it in any other language-learning program.

LEVELS 1, 2 & 3 | LEVELS 1, 2, 3, 4 & 5

\$399 | **\$499**

FREE SHIPPING
PROMO CODE: ozs083

(866) 263-0887 | RosettaStone.com/voice



Rosetta
Stone

iOS Central

The Latest on the iPhone, iPod Touch, iPad, and App Store



Apple Unveils iOS 7: The 'Biggest Change to iOS' Since the iPhone's Debut

BY LEX FRIEDMAN

Apple has taken the wraps off iOS 7, revealing a dramatic new design that sheds six-year-old interface elements and replaces them with a cleaner, more modern aesthetic. From top to bottom, Apple has renovated the operating system that powers the iPhone, iPad, and iPod touch for both looks and usability.

"It's the biggest change to iOS since the introduction of iPhone," Apple CEO Tim Cook said at the Worldwide Developers Conference in early June.

The OS and the stock apps gain a notably different, flat look. The typography and icons have been revamped.

Translucent textures let you see what's in the background. When you move your device, the backgrounds change in a parallax effect, shifting ever so slightly behind the frontmost elements. Animations have received an overhaul, too.

At WWDC, Apple senior vice president Craig Federighi showed off the redesigned apps. Game Center, for example, has lost its green felt, and the wood is

gone from Newsstand. Even Stocks and Compass have a new look with "precision and a sense of purpose," Federighi said.

The Weather app's animated backgrounds reflect current conditions, and you can tap the forecasts for details. The reworked Calendar has some elements seemingly inspired by third-party apps such as Calvetica and Fantastical. In Messages and Mail, a new gesture lets you swipe from the left to go back one level, and—à la Mailbox—you can slide across messages to move them or trash them.

Notification Center, now available from the lock screen, scores a new look, too, plus tabs that filter notifications for "today," "all," and "missed." And folders can now contain multiple screens' worth of apps.

Brand-New Features

In addition to the glossy redesign, iOS 7 brings new features that will make even an older iPhone seem fresh.

Control Center: iOS finally adds an easy-access hub with Control Center, which you open with a simple swipe up. Here you can enter Airplane Mode, toggle Bluetooth, turn on Do Not Disturb, enable rotation lock, access AirDrop, and reach the calculator or camera without the hassle of diving into apps. You can also adjust the currently playing track, and more. Control Center works from the lock screen as well, and since it appears as a transparent layer, you can still keep an eye on background activity.

Multitasking: iOS 7 supports multitasking for all apps. You can flip through large previews of running apps. As you access certain apps more than others, iOS 7 will

From top to bottom, Apple has renovated the operating system that powers the iPhone, iPad, and iPod touch for both looks and usability.

notice and let those apps poll for new data more often. If you check some apps more frequently in the morning, iOS 7 will grab data for those apps at the right time. iOS 7 also adds “opportunistic updates”: If the phone is on and in use, and if network conditions are good, it pulls more background data. Push notifications can trigger background processing for an app, too.

Safari: The browser now has a unified search field that, akin to the location bar in desktop Safari, lets you enter both URLs and search terms. New views make browsing tabs and frequently accessed sites easier. The location bar recedes as you scroll through a page, giving more space to the page’s content. You can use the swipe-from-left gesture to go back a page. The Shared Links feature, new in the forthcoming OS X Mavericks update (see page 12), comes to iOS 7 as well; you can browse links your friends have shared.

Four Cameras

In iOS 7, the Camera app offers square and panorama modes in addition to still-photo and video capture.



The new tabs interface is eye-popping (and doesn’t limit you to just eight tabs). You see large previews of visited pages in a vertically scrolling list with an interesting perspective. You can drag tabs to rearrange them, or flick them away.

AirDrop: Any app that supports the Share Sheet gains access to AirDrop; friends who are near you appear right there. When you tap to share, your pals can choose to accept the data that you are sending, and the appropriate app launches on their devices. It uses peer-to-peer Wi-Fi for maximum transfer speeds.

Camera and Photos: The Camera app has become a four-way camera—video, still, square, and panorama. Still photos can include filters, which can generate live, real-time previews.

The updated Photos app now offers Moments, which better organizes images without your intervention. Like iPhoto’s events on the Mac, Moments can analyze location data and dates to assemble your photos intelligently and label them in useful ways. The Photos app also gets access to iOS 7’s new filters, plus new sharing options. In addition to using AirDrop, you can share photos via iCloud. For the first time, family members and friends can share into your Photo Stream, too, and Photo Streams now support videos.

Siri: At WWDC, Apple senior vice president Eddy Cue talked about Siri, which is getting a redesign as well as



A More Capable Assistant Sporting a revised interface and new voices, the updated Siri can handle more commands and questions.

male and female voice options. Siri can control a lot more: “Play my last voicemail,” “Turn on Bluetooth,” and “Increase my brightness” are among the controls the personal assistant now understands. Siri can answer more questions, as well, and it integrates with Twitter and incorporates Wikipedia. In a not-so-subtle clue as to the status of the Apple-Google relationship, the updated Siri will get search results direct from Microsoft’s Bing.

Integrated with Siri is another new feature, iOS in the Car, which is designed to work with in-dash displays and show your apps. A slew of car manufacturers will support the feature starting in 2014.

App Store: The App Store gains ways to find kids’ apps, plus an “apps near me” browsing option; if you’re at a spot where certain apps are popular, they’re easy to uncover. As with OS X Mavericks, the App Store also gets the ability to update apps automatically in the background.

Music and iTunes Radio: At WWDC, Cue called the iOS 7 Music app “the best music player we have ever done.” You don’t just see your own content on your device; you also see all your iTunes in the Cloud purchases—music, movies, and TV shows.

The new iTunes Radio, which is built into the Music app, includes a set of featured stations curated by Apple’s music editors, along with music that’s currently popular on Twitter. You can share stations with friends, and skip past songs you don’t want to hear. You can also create your own stations by musical genre, or by a specific artist or song.

More Features in the Fall

Apple showed only a fraction of the changes planned for iOS 7, and we expect to see other features when the update is released this fall. Such additions might include audio-only FaceTime over Wi-Fi, number and address blocking, notification sync, support for Smart Mailboxes and improved search in Mail, and activation lock, which requires your iCloud user-name and password after a remote wipe.

iOS 7 will be available as an upgrade for the iPhone 4, 4S, and 5, the iPad 2 and later, the iPad mini, and the fifth-generation iPod touch.

Now You See It: How Retina Displays Promote Accessibility

Retina displays on iOS devices aren't just an attractive feature—they're essential to making the devices accessible to the visually impaired.

BY STEVEN AQUINO

The accessibility features in iOS are great. For disabled users, however, accessibility is more than just an obscure set of options in Settings. The screen, in fact, is perhaps the greatest accessibility feature.

Since I am visually impaired, my effective use of a device depends on the quality and brightness of its screen. And on the iPhone, I've found that I need a Retina display set to maximum brightness. My eyesight is such that I see "pixels" naturally, meaning that everything I see is fuzzy. Although no Retina display will ever be able to eliminate that fuzziness, such displays can drastically reduce it.

I used the original iPhone and iPad successfully with their displays set to full brightness, but seeing my iPhone 4's Retina screen was a game-changer. The combination of the big, bright LED-backlit display with the high pixel density is what made all the difference. Suddenly, even

the smallest text became readable, and I could spot details in images that were previously indistinguishable.

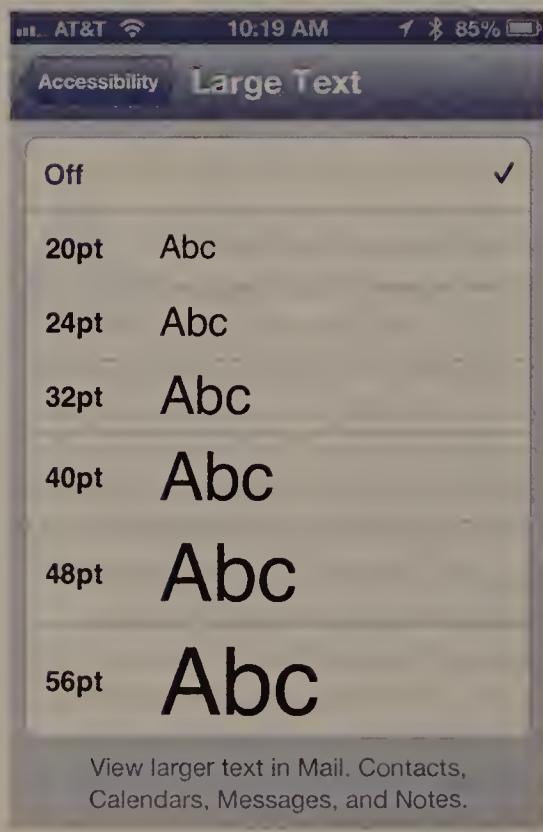
Bright Lights, Big Screen

As I mentioned, it's the combination of the Retina technology and maximum brightness that makes a device truly usable.

Every Retina iOS device I've owned—the iPhone 4, the iPhone 4S, and the third-generation iPad—has shipped with its brightness slider set halfway. My vision isn't good enough to see a screen that "dim"—I need it on full blast. So every time I get a new iPhone or iPad, I immediately go to Settings → Brightness & Wallpaper, and drag that slider as far right as it'll go. Then I breathe a happy sigh of relief.

Keeping my iPhone's display at maximum brightness doesn't come without pitfalls. The biggest problem is that it kills battery life. I must be judicious in using my iPhone, especially early in the day: I make a concerted effort to use it as little as possible, even during idle moments.

The battery dips quickly if I'm sending a lot of iMessages or surfing the Web in Safari, especially on a cell connection. I feel guilty when I use my apps, fully aware that I'm committing first-degree murder on my battery. But it's a necessary evil, forcing me to suffer with worse battery life than what most people get (which isn't the greatest to begin with).



Improve the Visuals To enhance readability, enlarge text size and maximize brightness.



Easy Recharging Mophie's Powerstation Duo can keep a max-brightness iPhone juiced up.

Stephen Hackett at Tools & Toys, however, turned me on to the Mophie Juice Pack Powerstation Duo, which I carry at all times. When my phone starts to get low on juice, I plug it in to recharge. The Mophie is an investment that pays for itself time and again. (For reviews of nine portable batteries, see page 40.)

No Retina, No Sale

At the end of his review of the iPad mini (go.macworld.com/gruber), John Gruber said that using a non-Retina device was a bitter pill to swallow, but he was going to do it because he so favored the mini's advantages in size and weight. I can't agree that it's an acceptable trade-off.

Simply put, I will no longer use an iPhone or iPad that doesn't have a Retina display. I know the limitations of my vision, and the combination of sharpness and brightness enriches my experience substantially, without question.

Just as long my Powerstation Duo never runs out of charge.

Apple Celebrates as the App Store Surpasses 50 Billion Downloads

In May, Apple announced that Brandon Ashmore of Mentor, Ohio, had downloaded the 50 billionth app from the App Store.

As part of Apple's promotion for the historic download, Ashmore was the lucky winner of an iTunes gift card worth \$10,000. The app Ashmore downloaded to win the prize was Space Inch's *Say the Same Thing*, a free game for the iPhone in which two players collaborate to find common words by free association—like the old “think of a word” game you might have played as a kid, but with smartphones.

Apple has quite a lot to celebrate, of course, as the App Store now counts some 850,000 apps—almost half of which work natively on the iPad—and has paid out some \$9 billion in royalties to developers.



If 50 billion downloads doesn't sound impressive, consider that it's the number of first-time downloads, not including updates or redownloads.

For context: Apple just celebrated 40 billion App Store downloads in January of this year, noting that half of those had come in 2012. Adding another 10 billion within the subsequent four months puts the company on target to exceed last year's download number by a significant margin.—MARCO TABINI

Amazon Launches Cloud Drive Photos App for Storage and Sharing

Online retail giant Amazon has released a new app that lets iPhone users save their pictures on the company's own cloud storage space.

Dubbed Amazon Cloud Drive Photos and available free of charge from the App Store, the app can transfer photos back and forth between a device and Cloud Drive, where the user can access them via a desktop computer, a Web browser, or other compatible devices, such as the Kindle Fire.



happen to use. In addition, the app allows you to view your photo albums in various layouts from your iPhone or iPod touch, as well as to share Cloud Drive photos through Facebook, Twitter, and email.

Launched in March 2011, Cloud Drive offers users 5GB of free storage for files of all kinds, including music, pictures, and video. Additional capacity is available for fees ranging from \$10 per year for 20GB of space to \$500 per year for 1TB.

The app is optimized for the iPhone 5, and it's compatible with the iPhone 3GS, iPhone 4, and iPhone 4S, as well as with the iPod touch (third, fourth, and fifth generation) and the iPad. It requires iOS 6.0 or later.—MARCO TABINI

What's New at the App Store



Beethoven's 9th Symphony

This fantastic iPad app ([go.macworld.com/beethoven](#)) features four versions of the 9th Symphony from four noted conductors, along with the score, a “BeatMap” of each of the four orchestras, and plenty of expert commentary. With the free download, however, you get only excerpts; the complete offering costs \$14.—JOEL MATHIS



Haunting Melissa

With push notifications and *The Blair Witch Project*-style video, this horror story ([go.macworld.com/haunting](#)) slowly unfolds on your iPhone or iPad. You'll discover why Melissa vanished, and what terrors await at the farmhouse where she seemed to go mad. You can pay as you go—about a buck for each chapter—or fork over \$15 for the season pass.—JOEL MATHIS



Eve

Any alarm app can tell you when to wake up. But the free Eve ([go.macworld.com/eve](#)) also tells you when to go to sleep. Just enter the time when you want to wake up in the morning, and it will alert you to your ideal bedtime the night before. And in the morning, Eve wakes you with a gentle sunrise and a “dawn chorus.”—JOEL MATHIS



TenXer

The free TenXer ([go.macworld.com/tenxer](#)) tracks what you do, where you do it, and for how long—sometimes asking you to input information (such as how many cups of coffee you drink in a day), but other times using your iPhone's GPS to learn your habits. The goal: to get enough detail about your routines to help you identify problems and make changes.—JOEL MATHIS

App Guide

Software for Your iPhone, iPod Touch, and iPad

Robot Unicorn Attack 2

GAMES The first Robot Unicorn Attack married an ironic novelty premise to an addictive endless platformer. The sequel isn't as hard, but you certainly can't say it's subtler. Full of rainbows, dolphins, space whales, and other leftovers from a seven-year-old's fever dreams, the initial level lets you frolic away until your poor unicorn is decapitated in an explosion of failure. Thus ends one of your three "wishes." You can retry a wish, or obtain a fourth one, by spending in-game currency. You can also unlock abilities and upgrades that may make the game easier but also give you an incentive to play longer (a welcome trade-off).

Erasure's "Always" is not the default soundtrack this time; instead, you can buy songs after you reach a certain level. While the game is free, buying songs guarantees the most over-the-top experience. I would have liked being able to import music from my library, but that's a small quibble.

Robot Unicorn Attack 2 is perhaps not as funny as the original, but it is a better game. Challenge your friends, and enjoy the expanded mythos of one of the most interesting franchises on iOS.—CHRIS HOLT

iPhone/iPad | Free; Adult Swim



APP GEMS

Games With Friends

Carcassonne Claim territory, score points (go. macworld.com/carcassonne).

Letterpress Spell words and use strategy (go. macworld.com/letterpress).

Spaceteam Command a doomed starship (go. macworld.com/spaceteam).

Super Stickman Golf 2 Play on wacky courses (go.macworld.com/stickgolf2).

Status Board

UTILITY This niche app displays Twitter timelines, RSS news feeds, and other important data on your iPad. It really shines, though, when you connect your iPad to an HDTV via HDMI, or use AirPlay to mirror your iPad to an Apple TV. (Making the most of the HDTV's screen space requires the \$20 HD Out in-app purchase.) It's perfect for publicly displaying regularly updated information.



I wish Status Board offered even more customization, but this beautifully designed app is easy to use and fills a specific need.—JEFFERY BATTERSBY

iPad | \$10; Panic

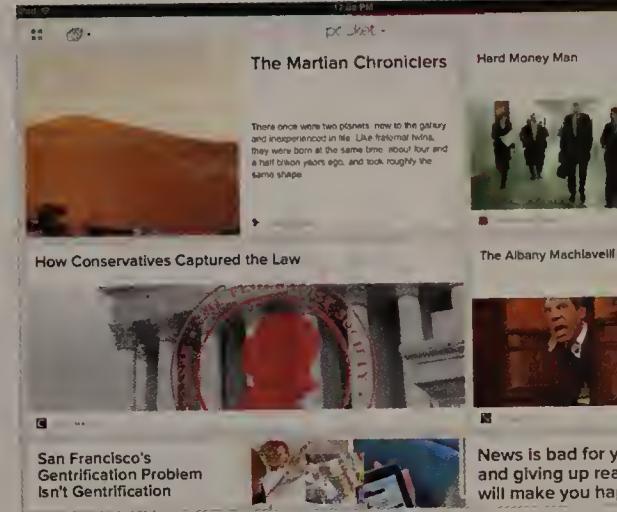


Penultimate

PRODUCTIVITY This handwriting app is a solid, incredibly elegant digital alternative to your old notebook and pen. The sparse tool set offers a pen whose color and thickness you can control, an eraser, and a way to cut and paste elements. You can drag in

a photo from your Camera Roll, too. The app is also supposed to let you search for words you've scribbled, but I haven't been able to get that function to work. In addition, you can't adjust the eraser thickness, zoom in or out, or rest your palm comfortably on the screen without producing squiggles unintentionally. Still, there's not much more you can ask of this little note-taking app.—CASSANDRA KHAW

iPad | \$4.99; Free; Evernote

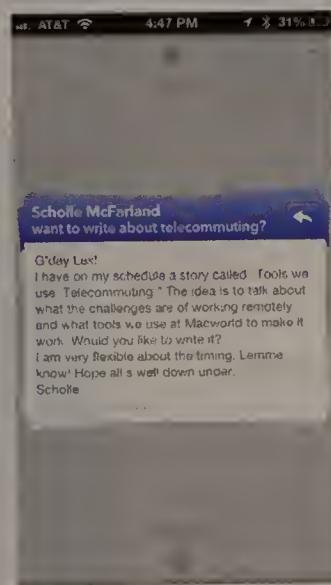


Pocket

PRODUCTIVITY Like Instapaper, Pocket lets you save Web articles by using a bookmarklet or by emailing the URL to your account. When you're ready to read, you launch the app on your iOS device. In displaying saved content, however, Pocket has a great advantage over its rival: The default gridlike view includes photos and other splashes of color, presenting a magazine feel. Within a story, you can see a stripped-down view of the text or go to the webpage if you're online.

It's easier to view saved photos in Pocket, too, and while both apps can save and play YouTube videos (for online viewing), Pocket does a better job of displaying videos from other sources.—JOEL MATHIS

iPhone/iPad | \$4.99; Free; Idea Shower



Triage

EMAIL Triage, which supports Gmail, Yahoo, iCloud, and other IMAP accounts, helps you pare down your inbox. It shows a stack of unread messages from your current inbox, and you flick each "card" to archive the message or keep it marked as unread. To reply or forward, you tap an arrow. You can configure other actions in the settings, but only on a per-account basis. The app also lacks a quick option to reply just to the sender. Even so, Triage makes it easy and fun to achieve—if not Inbox Zero—at least Inbox Zen.—LEX FRIEDMAN

iPhone | \$4.99; \$2; Southgate Labs



Kindle

EBOOKS Despite competition from iBooks, Kindle for iOS is still the best e-reader in the App Store. Book navigation is quick. Tap a page, and the app's buttons, progress bar, and whatnot vanish, so it's just you and the text. You can also choose from three themes, a variety of fonts and font sizes, and three margin widths, as well as adjust the brightness. I do wish that Kindle allowed users to tweak line spacing and disable forced justification; iBooks offers the latter via the Settings app. Another missing feature (that iBooks has) is an option to see how many pages remain in the current chapter. Thanks to Amazon's WhisperSync technology, however, your current page syncs to every other Internet-connected Kindle reader you use.

App Store rules prevent Amazon from linking to its store inside the Kindle app, but the iPad-optimized store at amazon.com/ipadkindlestore works great. If you'd rather avoid iOS lock-in for your ebooks, you'll find few disappointments in the Kindle app.—LEX FRIEDMAN

iPhone/iPad | \$4.99; Free; Amazon

Reviews

Accessories and Add-ons for Your iOS Devices



Hardware

Quad Lock Case

4.5; \$25-\$30; Annex Products; www.quadlockcase.com

The Quad Lock Case is available for iPhone 4/4S and iPhone 5. Each semirigid polycarbonate case seems shock-absorbent enough to protect against drops without adding tremendous bulk. Although I like both models, I prefer the iPhone 4/4S one, since it leaves buttons and switches exposed. You can attach either case to any of three mounts: the Adhesive Mount (\$20 for two), the Tripod Adapter (\$20), or the Bike Mount Pro (\$30).

The Quad Lock system is easy to recommend. The cases are excellent, the mounts are secure, and the pieces are simple to attach and detach.—DAN FRAKES

i-FlashDrive HD

4.5; \$100-\$329; Photofast; www.photofast.com

Made for the iPad, iPhone, and Mac, the i-FlashDrive HD has USB 2.0 and 30-pin connectors, plus a Lightning adapter. Storage ranges from 8GB to 64GB. A free app lets

you view and transfer files, back up contacts, sync with Dropbox, and encrypt files. On a MacBook, the drive obstructs other ports; its length could be a problem when it's attached to your iPhone or iPad.

In Macworld Lab tests it posted an unimpressive write time of 5 MBps, and a still-slow read time of 19 MBps.

The convenience is appealing, but the sluggish speed is a disappointment.—JEFF SANDSTOE



Skinny for iPad Mini

4.5; \$35; STM; www.stmbags.com

The Skinny folio case features a plastic fitted cradle covered in cloth. The cradle—which is easy to snap on, but a little more difficult to take off—has cutouts for the mini's buttons, jacks, and speakers. Regrettably, the iPad mini doesn't appear to sit perfectly inside.

The cover is textured fabric on the outside and micro-suede on the inside. A magnet activates the mini's Sleep/Wake feature. A wide tab holds the cover shut, quite tightly. The cover can also fold back to form a sturdy stand.

The Skinny seems to add a decent amount of protection. But it's not as sleek as other folio cases, and it feels cheap.—SARAH JACOBSSON PUREWAL

Fitbit Flex

4.5; \$100; Fitbit; www.fitbit.com

The Fitbit Flex can sync with (among other devices) the iPhone 4S or 5, and third-gen and newer iPads. It tracks steps taken, distance traveled, and sleep. It also calculates calories burned, and "very active" time. To see your numbers, you use the Fitbit app or website.

The Flex seems accurate and is comfortable on my wrist, though I find it slightly annoying to put on. It feels



more rugged than the Jawbone Up. Though I prefer the Up's better battery life, syncing the Flex is far superior. More people use Fitbit trackers, too, and I compare my stats with most of my friends' numbers on Fitbit.

All told, if you want a wristband fitness tracker, the Flex is the one to get right now.—LEX FRIEDMAN

iOS Devices: Current Lineup

PRODUCT	SPECS	RATING	PRICE ¹	DISPLAY	MORE INFO
iPad 2	16GB	Wi-Fi, 4.5	Wi-Fi: \$499; Wi-Fi and cellular: \$629	9.7-inch color (Retina)	go.macworld.com/ipad4
	32GB	Wi-Fi, 4.5	Wi-Fi: \$599; Wi-Fi and cellular: \$729	9.7-inch color (Retina)	go.macworld.com/ipad4
	64GB	Wi-Fi, 4.5	Wi-Fi: \$699; Wi-Fi and cellular: \$829	9.7-inch color (Retina)	go.macworld.com/ipad4
	128GB	n/a	Wi-Fi: \$799; Wi-Fi and cellular: \$929	9.7-inch color (Retina)	go.macworld.com/ipad4
	16GB (iPad 2)	4.5	Wi-Fi: \$399; Wi-Fi and cellular: \$529	9.7-inch color	go.macworld.com/ipad2
iPad Mini	16GB	Wi-Fi, 4.5	Wi-Fi: \$329; Wi-Fi and cellular: \$459	7.9-inch color	go.macworld.com/ipadmini
	32GB	Wi-Fi, 4.5	Wi-Fi: \$429; Wi-Fi and cellular: \$559	7.9-inch color	go.macworld.com/ipadmini
	64GB	Wi-Fi, 4.5	Wi-Fi: \$529; Wi-Fi and cellular: \$659	7.9-inch color	go.macworld.com/ipadmini
iPhone 4, 4S, and 5	8GB 4 ³	4.5	Free	3.5-inch color (Retina)	go.macworld.com/iphone4
	16GB 4S ⁴	4.5	\$99	3.5-inch color (Retina)	go.macworld.com/iphone4S
	16GB 5 ⁴	4.5	\$199	4-inch color (Retina)	go.macworld.com/iphone5
	32GB 5 ⁴	4.5	\$299	4-inch color (Retina)	go.macworld.com/iphone5
	64GB 5 ⁴	4.5	\$399	4-inch color (Retina)	go.macworld.com/iphone5
iPod Touch 5th Generation	16GB	4.5	\$229	4-inch color (Retina)	go.macworld.com/touch516
	32GB	4.5	\$299	4-inch color (Retina)	go.macworld.com/touch5
	64GB	4.5	\$399	4-inch color (Retina)	go.macworld.com/touch5

n/a = Not available. ¹All prices are Apple's prices. ²Separate Wi-Fi-and-cellular iPad models are available for AT&T's network and for Verizon's. ³This phone is available only with an AT&T plan. ⁴These models are available with an AT&T, Sprint, or Verizon plan.

Imagine Life Without Passwords

Try it Now!
& Save 60%



RoboForm will revolutionize the way you log in!

You will never have to type or remember your passwords again.

- 🔍 Secure Automatic Logins
- ⭐ On the Go Bookmarks
- ☁️ Syncing with Mobile Devices

- ↗️ Online Form Filling
- 🔒 Safe Storage of All of Your Logins
- 💡 Easy to Use

Get RoboForm for Only \$7.95

RoboForm.com/MacSpecial

Use Code: MACRF

 **RoboForm**
The World's #1 Password Manager

THE NEW

WORK MACHINE

HOW TO MAKE THE iPad A BETTER BUSINESS TOOL

ILLUSTRATIONS BY DAN PAGE

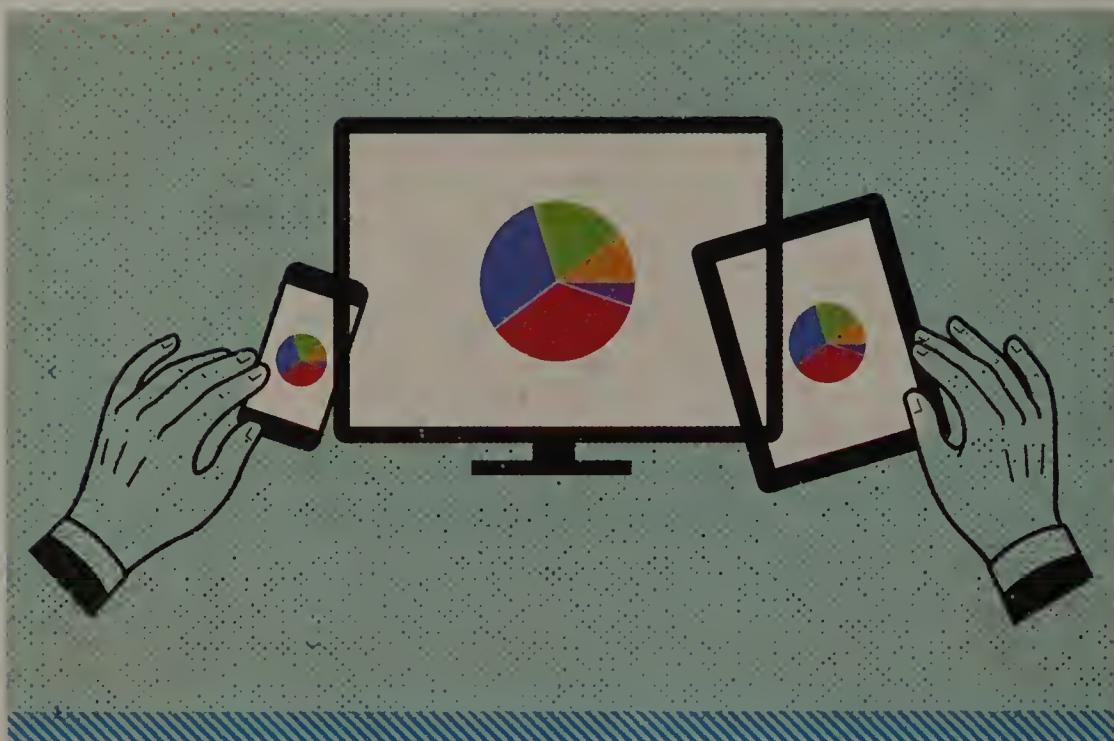
Anyone who still thinks the iPad can't hack it as a real work machine must not work very much. If you've been anywhere near an office (or a coffee shop) in the past couple of years, you know full well that iPads are rapidly catching up to laptops as the machines of choice for today's mobile workforce.

That transition, however, has only served to raise a host of new questions: How do you keep all of your important files with you? How do you work with those files (if the iPad doesn't natively support them)? How do you create and give presentations? How do you type? How do you keep the iPad juiced? How do you carry the thing?

Not to worry: We have the answers. We've surveyed the field of iPad-compatible file-syncing services. We've tested nine external batteries to find out which one will keep your iPad running the longest. We've found ways to work with PSD files and other odd formats. We've assembled a list of essential hardware and software that you should take to your next mobile presentation. And we've rounded up a bunch of good-quality iPad keyboards and cases.

And now, if you'll pardon us, we've got more work to do.





WHY I (STILL) USE DROPBOX

**USERS HAVE LOTS OF WAYS TO SYNC FILES WITH AN iPad.
HERE'S WHY I HAVEN'T SWITCHED.**

BY LEX FRIEDMAN

Odds are good that you already use Dropbox on your Mac for syncing and sharing files. (If you don't, you should; get started at dropbox.com.) Dropbox on the iPad isn't quite as full-featured as the Mac version, largely because the iPad eschews a traditional Finder-style file system. Even so, Dropbox represents the best way to sync files between your desktop and your iPad, as well as the best way to share files from your iPad with other people.

First, even if you use your iPad for work, you—or your colleagues—likely still use other computers, too. And since you save and sync so much business material via Dropbox already, it only makes sense to rely on the Dropbox iOS app as well.

You can find plenty of alternatives to Dropbox (see the sidebar on the next

page), but the most prominent one is iCloud. Even so, iCloud's sharing really can't compete with Dropbox's: iCloud files are limited to the apps in which they are created, and to the user who created them. And of course, you can't use iCloud from your iPad to open a Microsoft Word file that you created on your Mac.

THE DROPBOX APP

The Dropbox app shows you everything that your Dropbox folder contains, including any shared folders you've joined. Your files and folders sit in a sidebar at the left, and the right side shows more details about the individual files you select.

Some common file formats—text, Office, and iWork documents; audio files; videos; photos—are viewable within the Dropbox app. You may not be able to preview less-common file types within the Dropbox app, but not to worry: Dropbox

lets you open your documents in any compatible app installed on your iPad.

And even if you can't (or don't need to) open a document, and you merely want to share the item with someone else, you can do that too. Dropbox offers sharing options via email, text message, Facebook message, Facebook post, or tweet. All of those sharing options rely on your sending a link to your file on Dropbox, from which your recipient must then download the file in question. (You can also copy the link to the Clipboard to share it in another way.)

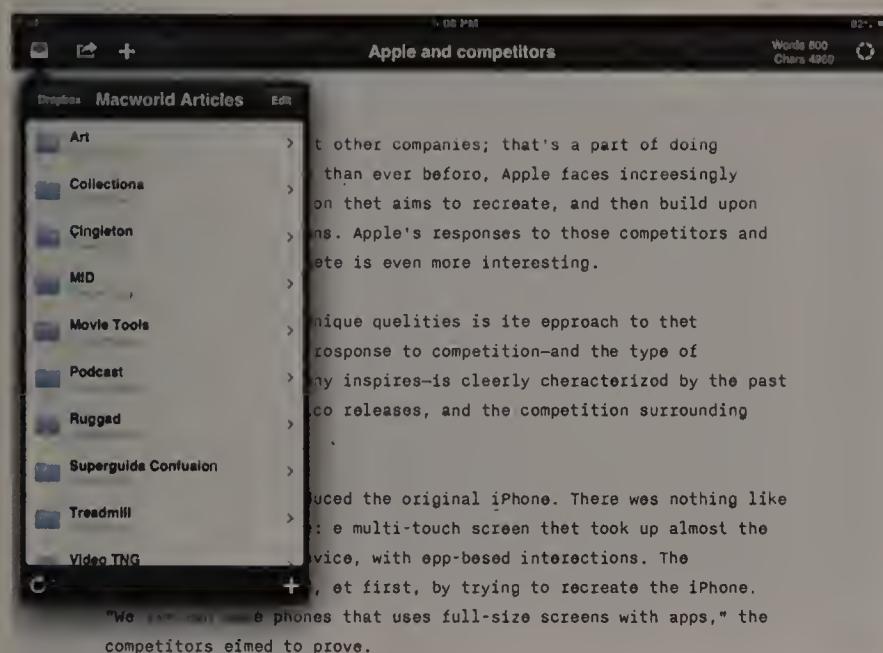
Don't fear that you'll need to be online for the Dropbox app to function. The app cleverly offers a simple mechanism by which you can cache files locally on your iPad. While you're online, find those files, and tap the star icon; from that moment on, each file will remain available for you to access within the Dropbox app even if your iPad has no Internet connection.

WRITING APPS

There's more to Dropbox on the iPad than just the Dropbox app. A slew of other third-party apps ably integrate Dropbox, so you can use them to create and work with all kinds of documents and files that you sync with the service.

Dropbox-enabled text editors are very popular in the App Store. My favorite is iA Writer; other well-loved offerings include ByWord, Elements, Nebulous Notes, Pear Note, Textastic, Write, WriteRoom, and Writing Kit. Such apps have a variety of features for writing and note taking—including modified versions of the iPad keyboard, with extra keys for common punctuation, symbols, and cursor navigation. But more important, they all sync tightly with Dropbox.

The edits you make to text files in those apps can save to Dropbox as you work, automatically. That makes managing, syncing, and sharing such files much less of a hassle. This arrangement is miles better than the email dance (in which you need to confirm that you have the latest version of a file in your inbox before editing, and then have to make sure your colleagues all work from the version with your additional changes).



Compare that to the process with an app such as Pages. When you use the Dropbox app to open a document in Apple's word processor for iOS, your changes save in Pages, but don't automatically save back to Dropbox again. You need to save the file in Pages, and then select the file in the documents viewer and tap the *Send To* button. Next you tap the *Open in Another App* button, choose a file format (Pages, PDF, or Word), wait while the file is generated, tap *Choose App*, and finally tap *Open in Dropbox*.

You can see why text editors with direct Dropbox integration are far more appealing to so many business users.

MANY, MANY OTHER APPS

Assorted other apps—focused on productivity, security, and the like—also offer Dropbox integration. For example, Phraseology developer Agile Tortoise also makes a popular app called Drafts, which is designed for quick note taking: The app's goal is to launch quickly, ready in an instant to accept the notes you need to jot down. It then lets you perform an array of actions with those pieces of text, with robust Dropbox syncing as a core element—not only can the app save notes to Dropbox, but it can also append new notes to existing files in Dropbox, making quick work of adding data to work logs.

Heavy-duty typists often rely on Smile Software's TextExpander on the Mac, and it syncs via Dropbox to the company's

Ready Access

On the iPad, the Dropbox app lists everything in your Dropbox folder, including shared folders. It also allows you to view common file formats.

insufficient. Apps such as Readdle's PDF Expert and Smile's PDFpenPro let you access PDFs from your Dropbox folder, and allow you to save changes—including annotation, edits, and signatures—back to Dropbox again.

Readdle's Scanner Pro lets you scan documents by photographing them with the iPad's built-in camera, and all those scanned images can be pushed to your Dropbox folder, too.

IT JUST WORKS

Thanks to the vibrant developer support for Dropbox, it's frequently the right service for iPad-toting professionals. When it comes to making documents easy to share and sync, ubiquity is important, and Dropbox offers that.

Free Dropbox accounts provide 2GB of storage; paid individual plans offer 100GB (\$99 per year), 200GB (\$199 per year), or 500GB (\$499 per year). Dropbox for Business plans start at \$795 per year with five team members and essentially limitless storage.

ALTERNATIVES TO DROPBOX

Maybe Dropbox isn't for you. And even if you do rely on Dropbox for some syncing, that doesn't preclude you from enjoying the benefits of competitive services when it makes sense to do so. Here are your main options.



iCLOUD: If you exclusively use Apple's iWork apps for your business documents, iCloud is unquestionably easier to work with than Dropbox. Instead of doing the 'Open In...' maneuver, you can open files from iCloud as if they were right there on your iPad.



GOOGLE DRIVE: Many companies depend on Google Drive for collaboration. Though comparatively few apps integrate with the service versus Dropbox, Google's own official app gives you quick access to all your documents. The app includes editing options, and it lets you easily add other users to share your documents.



SKYDRIVE, SUGARSYNC, AND BOX: These three services all offer Dropbox-style takes on cloud sharing. Like Google Drive, none can rival Dropbox's popularity among third-party app developers. Each cloud company's iPad app, however, is very similar to Dropbox's: You can get links to share your files, open files from the cloud by sending them to other apps, and move and rename documents as you desire.



KEEPING A CHARGE

WE TESTED THE BEST EXTERNAL BATTERIES FOR YOUR iPad.

BY JAMES GALBRAITH

It takes a lot of power to light up an iPad's 9.7-inch screen—and even more to power the fourth-generation model's Retina display. That's why the device is packed full of battery capacity—an impressive 11,560 milliampere-hours' worth for the latest model. But although our battery tests have shown that, under heavy use, the fourth-gen iPad can last for more than 9 hours on a single charge, sometimes you need even more juice.

Whether you're exploring the great outdoors or enduring a power outage, a portable charging device—in other words, a big battery—can come in handy. Portable batteries can also charge your smartphones, media players, and other mobile gear that draw electricity over USB.

We recently put nine such devices through their paces and found that although all could help in a pinch, only one could provide a full recharge of a fourth-generation iPad.

WHAT TO LOOK FOR

When you're shopping for a portable charging device, you should keep an eye out for several things, including capacity, convenience, and cost. If you're seeking a portable charger that offers the greatest amount of juice for your iPad, iPhone, or other USB-charged device, look first at the unit's battery capacity, measured in milliampere-hours. The batteries we tried range from 6000 mAh to 16,000 mAh.

The downside is that higher-capacity batteries are generally larger and heavier than lower-capacity ones. If you're packing light, adding a 1-pound charger to your bag may not be wise. Similarly, the higher the capacity a portable battery has, the longer the battery itself takes to charge: Some need as long as 14 hours, requiring you to leave them plugged in all night.

Many portable batteries can charge over a Micro-USB cable, eliminating the need to pack another power supply. (They'll charge faster with your iPad's

power adapter, or another dedicated USB charger, than with a computer's USB port, but either will work.) Some, however, require a particular AC adapter, which is less convenient. A few have AC plugs built in, so you need nothing but an electrical outlet to start filling them up.

iSOUND PORTABLE POWER

Despite the name of its vendor, iSound, the \$90 Portable Power (; isound.net) does not have built-in speakers. But with a battery capacity of 8000 mAh, it offers a good amount of charging power; and with five USB ports, it can accommodate more devices than most of the other models we tested. At 3.5 by 3.3 by 1.0 inches, the 8.2-ounce, squarish Portable Power is almost identical in size to Apple's older 85W MacBook Pro power adapters.

Unlike most of the chargers in this roundup, the Portable Power comes with, and requires, its own power adapter for charging. Interestingly, this battery also incorporates an LED flashlight, which I suppose may come in handy when you are searching in your bag for the additional power supply you had to pack.

In our tests the Portable Power took around 7 hours to charge fully; it charged our dead fourth-generation iPad to 53 percent of its capacity in 2 hours, 45 minutes before running out of juice.

Note that what you plug into the five USB-charging ports matters: For example, you can have an iPad and one phone, or five phones but no iPad. If you try to add a second phone with the iPad, however,

the LEDs on the Portable Power start flashing, and all devices stop charging until you cycle the device's power button.

iSOUND PORTABLE POWER MAX

With a massive 16,000-mAh capacity, the \$130 Portable Power Max (; isound.net) was the only model to fully charge our dead fourth-gen iPad. We were even able to plug in a second iPad and charge that by a small percentage before the battery died. The drawback to having so much capacity is that charging the battery itself took forever—nearly 14.5 hours! The unit is also relatively large at 5.8 by 3.3 by 1.0 inches, and it weighs 14.6 ounces.

Like its sibling, the Portable Power Max requires the included (and inconvenient) AC adapter to charge. And also like the standard Portable Power, the Max's five USB ports can't handle a lot of power-hungry devices: If you've connected a full-size iPad to it, adding more than one phone stops the charging until you toggle the battery's power button off and on. (As with the smaller Portable Power, we connected phones to all five USB ports without overloading the battery.)

JUST MOBILE GUM MAX DUO

If you like your mobile chargers with a splash of color, Just Mobile's \$130 Gum Max Duo (; just-mobile.com) offers

optional rubber sleeves in red, blue, and yellow to cover its aluminum and black surfaces. This battery, which charges via an included Micro-USB cable, offers 11,200 mAh of power, weighs 9.7 ounces, and measures 4.3 by 3.2 by 1.1 inches.

The "Duo" in the product's name refers to the battery's two USB-charging ports, one providing 2.4A (for iPads) and the other 1A (for phones, iPods, and other lower-power devices). We were able to charge the Gum Max Duo, using Apple's iPad charger, in a leisurely 13 hours, 14 minutes. When completely charged, the battery charged our fourth-generation iPad to 75 percent of full capacity.

LENMAR HELIX POWER BANK

According to Lenmar's curious zombie-themed marketing materials, the \$100, 11000-mAh Helix Power Bank (; lenmar.com) can help you revive dead portable devices, making them "undead." The Power Bank has four green "eyes" (really just status LEDs showing the remaining charge, but I'm playing along with the zombie theme here). The 4.7-by-3.1-by-0.9-inch battery weighs 9.1 ounces and sports three USB-charging ports: two 1.1A ports for phones, plus one 2.1A port for higher-draw devices such as the iPad. Unlike the iSound Portable Power, the Power Bank can charge two phones and one iPad simultaneously.

You charge the Power Bank itself using the included Micro-USB cable. Plugged into Apple's 10W iPad USB charger, the Lenmar model took 6 hours, 49 minutes to reach its maximum charge. It then charged our dead fourth-gen iPad to 70 percent of full. Warning: Do not overcharge or drop the device, or the resulting zombie apocalypse will be your undoing.

MOPHIE JUICE PACK POWERSTATION DUO

Like several other batteries here, Mophie's \$100 Juice Pack Powerstation Duo (; mophie.com) can charge two devices at once. About the length and width of an iPhone 4, but twice as thick, the Powerstation Duo is the smallest and lightest charger of the group, measuring just 4.3 by 2.3 by 0.8 inches and weighing only 6.5 ounces.

The reason for this svelte size is that the Powerstation Duo has a capacity of merely 6000 mAh, and unsurprisingly it gave us the weakest charging result in this roundup: It restored our fully drained fourth-generation iPad's battery to just 39 percent before running out of power itself. On the bright side, charging the Powerstation Duo didn't take terribly long, requiring just 6 hours, 10 minutes using Apple's iPad USB power adapter.





MOPHIE JUICE PACK POWERSTATION PRO

Mophie's \$100 Powerstation Pro (; mophie.com) is the Powerstation Duo's bigger, tougher sibling. (Technically, it's the ruggedized version of the \$80, non-Duo Powerstation.) The Pro comes clad in a shock-absorbing, thick-rubber bumper, attached by six screws. Covering the sides, corners, and bottom, the bumper protects the USB ports from shock and water. The bare top face of the battery presents four status LEDs.

The case adds a bit of bulk—the Pro is slightly larger than the Duo, at 4.5 by 2.7 by 1.0 inches—but at just 7.1 ounces, this model is the second-lightest device we looked at. It has the same battery capacity as the Duo, at 6000 mAh, but it can charge only a single device at a time. The Pro charged itself quickly, taking 5 hours, 45 minutes to reach its full charge, and it charged our drained fourth-gen iPad to 42 percent of full before running out of power itself. Unlike many of the other portable battery chargers, the Powerstation Pro has built-in overcharge protection.

NEW TRENT iCARRIER IMP120D

The \$70 iCarrier Heavy Duty Dual USB 5V/3A charger, model IMP120D (

newtrent.com), is the least-pricey model here, yet with 12,000 mAh, it has one of the highest capacities. It measures 3.9 by 3.6 by 1.1 inches and weighs 10 ounces.

Like the iSound products, the iCarrier loses points for requiring its own AC adapter to charge itself. We also didn't like the battery's failure to make obvious to us which of its two USB-charging ports will support an iPad. (The ports are labeled Output 1 and Output 2, with the power output of each noted only in small print on the bottom of the device.) The iCarrier took 9 hours, 10 minutes to charge, after which it was able to charge our iPad to 75 percent of capacity.

SANHO HYPERJUICE PLUG 10,400MAH

While some portable chargers use a Micro-USB cable to charge, and others rely on an AC adapter, Sanho's \$130 HyperJuice Plug 10,400mAh (; hypershop.com) eliminates the need for charging cables by having the plug built right in. Simply pop out the two-prong plug and stick it in a standard AC wall outlet, and you're filling up the HyperJuice Plug's 10,400-mAh battery. The Plug is a little bulkier than most of the chargers we evaluated, at 4.8 by 3.4 by 0.8 inches, and it weighs a substantial 11.6 ounces.

Many two-port chargers have one 2.1A USB port for iPads and one 1A port for smartphones and similar devices. The HyperJuice Plug is smart enough to recognize which port is drawing more power and to adjust accordingly: Plug an iPhone into either port, and the battery outputs 5W; plug an iPad in, and it gives that port 10W. You can even use the HyperJuice Plug with two iPads—it will give each USB port 7.5W. Available in a wide variety of colors, the HyperJuice Plug 10,400 mAh took 7 hours, 51 minutes to charge up, but the battery loaded our drained iPad to 61 percent of capacity before calling it quits. The HyperJuice Plug also offers built-in protection against overcharging and overheating.

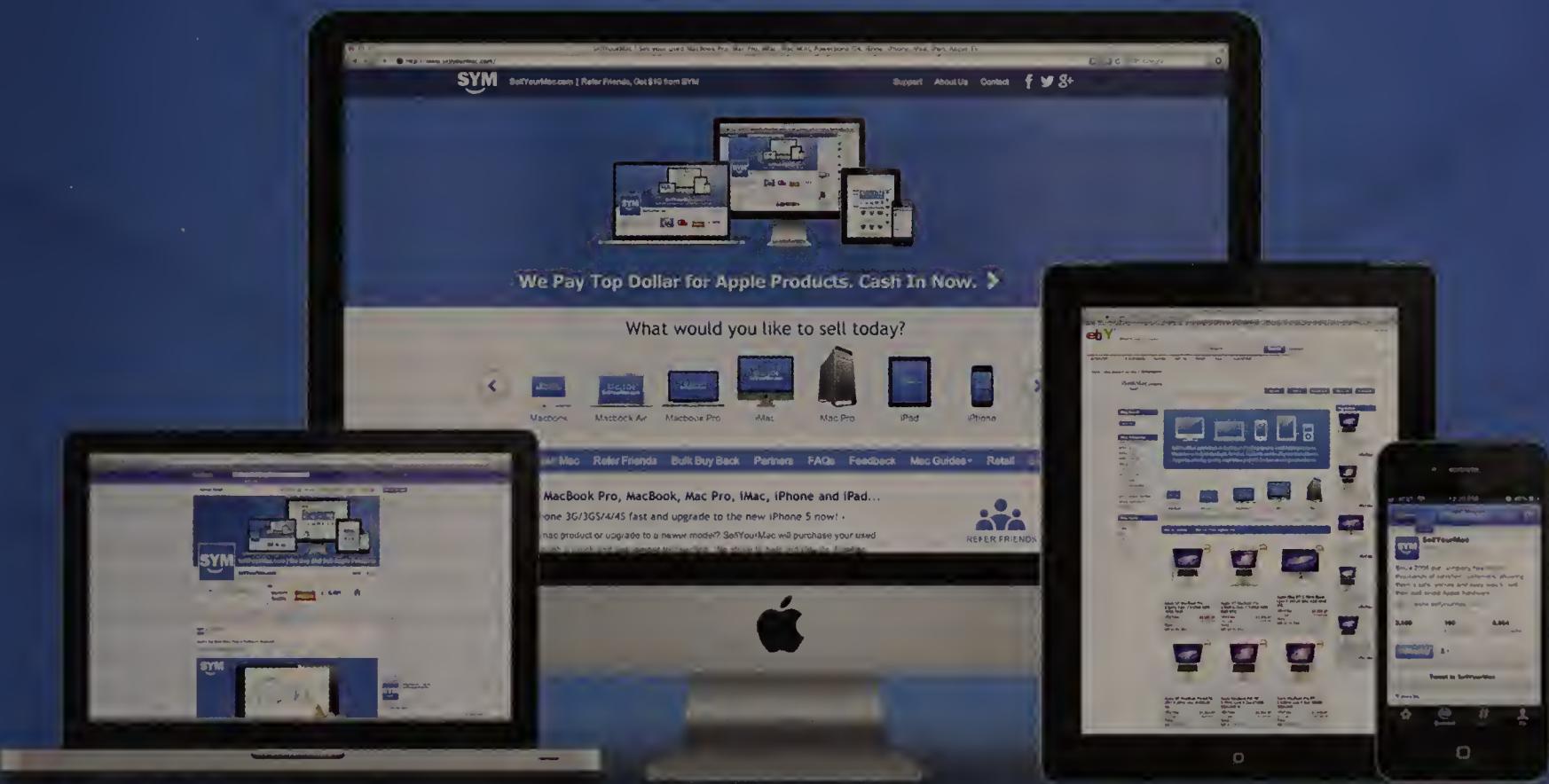
SANHO HYPERJUICE PLUG 15,600MAH

For \$30 more, the larger HyperJuice Plug 15,600mAh (; hypershop.com) offers 50 percent more battery capacity than its similar-looking sibling. At a hefty 16.8 ounces, this \$160 version of the Plug was the only battery here to weigh more than a pound. At just over 6 inches in length (but otherwise the same dimensions as the 10,400-mAh version), the HyperJuice Plug 15,600mAh is also the longest product in our roundup. Like its sibling, the Plug 15,600mAh has a built-in retractable plug, eliminating at least one cable from your packing list. The battery juiced up in 8 hours, 16 minutes, and it charged our drained iPad to 95 percent.

BOTTOM LINE

No single portable charging device will suit everyone. People who travel light and are looking to add the least amount of weight and bulk to their carry-on bag should consider Mophie's Juice Pack Powerstation Pro. It's small and light, but rugged; it charges quickly over Micro-USB; and it will deliver several additional hours of life to your iPad. If you value power over portability, the HyperJuice Plug 15,600mAh is one of the highest-capacity batteries here. It can handle two iPads at a time, and its built-in plug means that you won't need additional cables or adapters to recharge the battery itself.

SYM



Receive a \$15 bonus by using promo code "macworldmag21"

SellYourMac.com

We Buy and Sell Apple products

SellYourMac.com Offers:

- ✓ Fast payment via check or PayPal
- ✓ Step by step email updates
- ✓ 14 day offer guarantee
- ✓ Secure data wipe
- ✓ Free shipping
- ✓ Safe transaction

FUNNY FILE

FORMATS

WHAT TO DO WHEN YOUR iPAD DOESN'T KNOW HOW TO HANDLE A FILE.

BY JOE KISSELL



Movie Playback No single app can play every video format perfectly. But though it's not without its limitations, OPlayerHD is reasonably good at handling many types of audio and video files.

Since iOS supports many common file types, nearly any iOS app can display graphics, videos, PDFs, and Office and iWork documents. But beyond the top 20 or so formats, your iPad may have no idea what to do. You can easily get a file onto your iPad (by syncing it in iTunes or by emailing it to yourself, for example), but opening and editing it is another story. Sure, you can use a conversion program on a computer, but what if you have only your iPad?

For the vast majority of file types, you can find at least one app—and sometimes dozens—that can open the file. It's a matter of figuring out which one will best

serve your needs. That task isn't always easy, though. Sometimes a file's extension alone doesn't reliably indicate what sort of content it holds, and apps' definitions of "support" for file formats vary tremendously. But with a bit of detective work (and our tips), you can find a way to use most kinds of data on your iPad.

SEARCH TIPS

If you have a file that shows a generic icon in every app you try on your iPad, and displays no content when you tap it, you need to get an app that can deal with the file. You can search in iTunes on a Mac or PC, but I prefer to search in the App Store app on my iPad, because there I can sort the apps (by rating, price, or

popularity) and focus on iPad-native apps.

Try searching by file extension rather than by app function. If you have a video file in, say, .mkv format, search for "mkv" rather than "video"—the latter term will give too many matches to be helpful. This trick does not always work, but it can narrow the field.

Following is some specific guidance about several common categories of files.

COMPRESSED FILES

It's easy to compress a file or a folder into ZIP (.zip) format on a Mac or PC. Other common formats include gzip (.gz), RAR (.rar), StuffIt (.sit), and StuffIt X (.sitx). If you receive such a file as, say, an email attachment on your iPad, you will naturally want to decompress the archive. Lots of iOS apps, including some you may already have, can see into at least a few of these formats. For example, Good.iWare's \$5 GoodReader for iPad can open .zip and .rar archives (and can compress files or folders as .zip archives). The broadest set of decompression formats I've found is in Dag Agren's \$3 Archives, which covers not only .zip and .rar, but many more, including .sit and .sitx, bzip2 (.bz2), .gz, LZH (.lzh), and even CD and DVD images in ISO and several other formats.

But remember, decompressing files is only half the battle: You still need to open whatever is inside. If your iPad doesn't already have a way to read the embedded file, you may need to return to the App Store for another app. (And in cases involving executable files and Mac disk images, you're out of luck—no iOS app that I know of can help with those.)

GRAPHICS

The iPad can display JPEG, TIFF, GIF, and PNG graphics, as well as PDFs, without any extra software. But other graphics files, such as those in the native formats of Photoshop and Illustrator, require help.

Just a few iPad apps support Photoshop's .psd file format. Even Adobe's own Photoshop Touch (\$10) can open .psd files only in a roundabout way that flattens the file's layers in the process. Instead, turn to Autodesk's \$5 Sketchbook Pro or Diesel Softworks' \$10 Pixels Pro, which not only can display but also can edit .psd files.

I couldn't find any iPad apps that can edit Illustrator (.ai) files, but I did find one that can display them, as well as InDesign (.indd) files: Code Line's \$10 SneakPeek.

The SVG (Scalable Vector Graphic) format is another popular way to store vector illustrations, and numerous iPad apps can both display and edit such files. Examples include Indeo's \$9 iDraw and Elevenworks' \$9 TouchDraw.

AUDIO AND VIDEO

Most digital music files are in MP3 (.mp3) or AAC (.m4a) format, which iOS supports. iOS can also handle Audio Interchange File Format files (.aif or .aiff), WAV (.wav), and a few others. For Windows Media Audio (.wma), Ogg Vorbis (.ogg), or Free Lossless Audio Codec (.flac) files, try Olimsoft's free OPlayerHD Lite or its \$5 OplayerHD, both of which can also play other audio and video formats. Video is especially complicated because there are many ways of mixing and matching video encoding, audio encoding, and file formats. For successful playback, an app must support not only the file format itself but also the audio and video encodings it contains.

Your iPad can natively handle .m4v files, most .mp4 and .mov files, and a limited subset of .avi files. For other videos, you'll need assistance. Before looking for apps, determine the file format, video encoding, and audio encoding for the videos you want to play. A quick way to check is to download

Houdini Software's free Mac app Video-Spec and drop a video file on it.

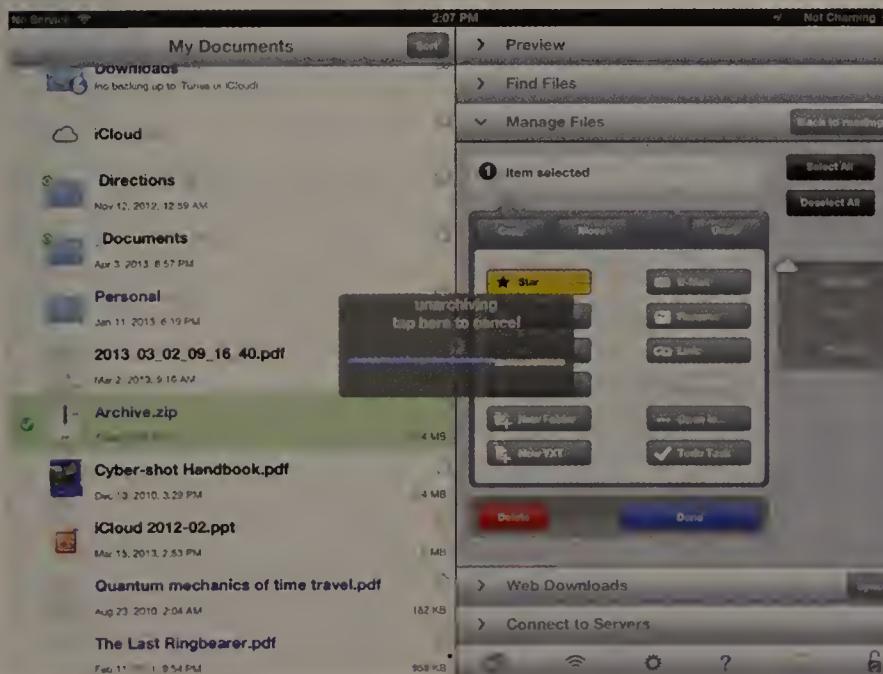
I have yet to discover the perfect video app. The aforementioned OPlayerHD worked for most of my AVI, Ogg Theora, and FLV videos, but those with AC3 audio made no sound, and WMV videos tended to play in slow motion. (OPlayerHD also supports Xvid, DivX, MKV, and other container formats.) NXP Software's \$4 CineXPlayer HD played the AC3 audio from AVI videos, but with a blank screen (and it didn't support FLV or Ogg Theora). FireCore's \$5 Infuse played sound and visuals from AVI files with AC3 audio, but the video often froze while the audio played.

These complications are enough to make me want to avoid the issue entirely by converting video files to an iPad-friendly format while they're still on my Mac.

EBOOKS

Finally, a word about ebooks. Apple's free iBooks app can deal with .ibook files from the iBookstore, plus ePub and PDF files. Amazon's free Kindle app handles Mobi-pocket (.mobi), including Amazon's .azw variant with DRM, and PDF. Other ebook apps, including Barnes & Noble's free Nook, support their respective file formats.

If you want to read FictionBook (.fb2) ebooks, try Applifto's \$3 Exlibris FB2, which also handles ePub. For the Palm .pdb and .prc formats—plus .cbr and .cbz comics files, ePub, PDF, and more—you can use Tien Thinh Vu's \$2 eBookMobi.



Open Up

Among its many talents, GoodReader can decompress and compress ZIP archives, and can display many common file types within.

Web Hosting made easy

Award Winning Mac Support
24/7 telephone and email help

Google Friendly
SEO Injectors built in to help
with search rank

Multi-Site and Multi-Domain
Easily add extra sites and domains

Business-class Email included
100% reliable, spam and
virus protected

plus so much more....

just \$5.99
per month



MacMate

You get much more than just hosting too:



Get your **free trial** at:
www.macmate.me

FIND THE BEST iPAD

KEYBOARD

AN EXTERNAL KEYBOARD CAN BE A GREAT iPAD ACCESSORY. HERE'S OUR GUIDE TO THE DIFFERENT KINDS.

BY DAN FRAKES

If you type frequently—or if you just can't seem to get the hang of the iPad's on-screen keyboard—try an external keyboard, which offers the tactile advantages of real, physical keys without forcing you to sacrifice the iPad's portability and touchscreen features.

The iPad supports almost any Bluetooth keyboard, but you can find many keyboards that are made for use with the iPad and (often) include dedicated iPad-function keys. Most iPad keyboards are part of a protective case, although a few are stand-alone; all use rechargeable batteries that last for weeks or months.

With the exception of stand-alone models, however, iPad keyboards make

some usability trade-offs. The thinner the keyboard, the worse the feel of the keys. The smaller the keyboard is, the more crowded the keys are, or the likelier it is to have keys in the wrong locations.

We've tested scores of iPad keyboards. Here are the different types, along with our recommendations for those that offer the best overall typing in each category.

FOLIO-CASE KEYBOARDS

The most common type, these keyboards are integrated into a full-body, folio-style iPad case. The all-in-one design is handy, and most models make it easy to type on your lap. Along with keyboard shells, folio cases usually have the thinnest keyboards, but they tend to be cramped and to have poor-quality keys, sometimes arrayed in odd layouts. Most limit the iPad to



landscape orientation and one propped-up angle. On top of all that, using your iPad as a tablet while it's in the case can be inconvenient (you flip the keyboard behind the iPad, which makes for a bulky package); but because removing the iPad from the case is a hassle, you may end up carrying the keyboard even when you don't need it.

RECOMMENDATIONS

Belkin's \$100 Ultimate Keyboard Case for iPad (iPad 3, 4; belkin.com)

Logitech's \$130 Solar Keyboard Folio (iPad 2, 3, 4; logitech.com)

Zagg's \$130 Zaggkeys ProFolio+ and \$100 Zaggkeys ProFolio (iPad 2, 3, 4; zagg.com)

CLAMSHELL KEYBOARDS

These models essentially turn your iPad into a laptop: The iPad acts as the screen, while the keyboard and its enclosure, attached by a hinge, play the role of the laptop base. The drawbacks to most clamshell keyboards are that they can add significant weight and bulk, they make it difficult to use your iPad as a tablet, and they offer small keys in a cramped layout. But the quality of those keys is often a step up from that of the average folio-case keyboard. The laptop-style design



**ZAGG
ZAGGKEYS
PRO PLUS**

works well for typing on your lap, too, and most models provide a good range of screen angles. Like folio models, most clamshells hold the iPad in landscape orientation, though a few let you prop up the tablet in portrait orientation.

RECOMMENDATIONS

Brydge's Brydge+ (\$200 for aluminum, \$130 for black polycarbonate composite; iPad 2, 3, 4; thebrydge.com)

ClamCase's \$169 Pro and \$149 standard ClamCase (iPad 2, 3, 4; clamcase.com)

KEYBOARD SHELLS

Especially thin and light, these models integrate a slim keyboard into a rigid shell that protects the front or back of the iPad in transit. (Most cover just the iPad's screen, leaving the back exposed.) When you're ready to type, you pop the iPad out of (or pull it away from) the shell, and put it in a prop-up slot above the keyboard. Most keyboard shells support only a single angle, though they often let you use your iPad in portrait or landscape. Such keyboards can be cramped, and their keys are typically small. You can use a keyboard shell on your lap if you're careful, but these models are less stable on your lap than folios and clamshells are.



RECOMMENDATIONS

Logitech's \$100 Ultrathin Keyboard Cover (iPad 2, 3, 4; logitech.com)

Zagg's \$130 Zaggkeys Pro Plus and \$100 Zaggkeys Pro (iPad 2, 3, 4; zagg.com)

KEYBOARD OVERLAYS

Secured with magnets or a sticky silicone, keyboard overlays sit on your iPad's screen and add tactile feel to the tablet's software keyboard. Overlays take up less space than a full keyboard and don't need batteries or charging, but we don't find them to be enough of an improvement over the iPad's on-screen keyboard to be

worth the cost. And of course, you must move them out of the way whenever you want to use the iPad's screen normally.

STAND-ALONE KEYBOARDS

You carry a stand-alone keyboard separately from your iPad, and usually such a device requires a separate iPad stand (or at least an iPad case with a built-in stand). But such keyboards often have full-size, high-quality keys in a standard layout, and with a good stand you get better ergonomics than with a keyboard case. You can leave the keyboard behind when you don't need it, and you don't have to buy a new one when you upgrade your iPad. Such keyboards also let you use your favorite iPad case, and they work with any iOS device. (Most can work with a Mac or a Windows PC, too.) We recommend this type of iPad keyboard unless you spend more time with a keyboard than without—and even then, you should at least consider a stand-alone model.

=iPAD MINI KEYBOARDS=

The iPad mini's smaller screen makes serious typing even more difficult than a full-size iPad's screen does—and that makes the notion of using a physical keyboard with the iPad mini that much more appealing. However, the usability trade-offs of iPad keyboard cases affect iPad mini keyboard cases to a greater extent. Because the iPad mini has a considerably more compact footprint, any keyboard case that attempts to match that footprint must incorporate an even more-cramped keyboard, with even smaller keys, than a keyboard for a full-size iPad does. Most of the iPad mini keyboard cases we've tested omit some keys altogether, or at best relegate them to Fn-key-enabled functions of remaining keys.

The result is that we've encountered few iPad mini keyboard cases that are worth recommending. In fact, the only one we currently recommend, Zagg's \$90 Zaggkeys Mini 9 (zagg.com), forgoes matching the iPad mini's footprint in favor of promoting better typing: Since the Mini 9 is actually a couple of inches longer than the iPad mini, its keyboard is about the same size as what you would find on a standard iPad keyboard case. It's the smallest product we recommend for a touch typist who owns an iPad mini. Otherwise, we recommend a stand-alone keyboard.

RECOMMENDATIONS

Amazon's \$30 AmazonBasics Bluetooth Keyboard with Mini Travel Stand for iPad, New iPad Mini, iPhone (amazon.com)

Apple's \$69 Wireless Keyboard (apple.com)

Kensington's \$70 KeyStand Compact Keyboard & Stand (kensington.com)

Logitech's \$100 Bluetooth Easy-Switch Keyboard, \$80 Wireless Solar Keyboard K760, and \$70 Tablet Keyboard for iPad (logitech.com)

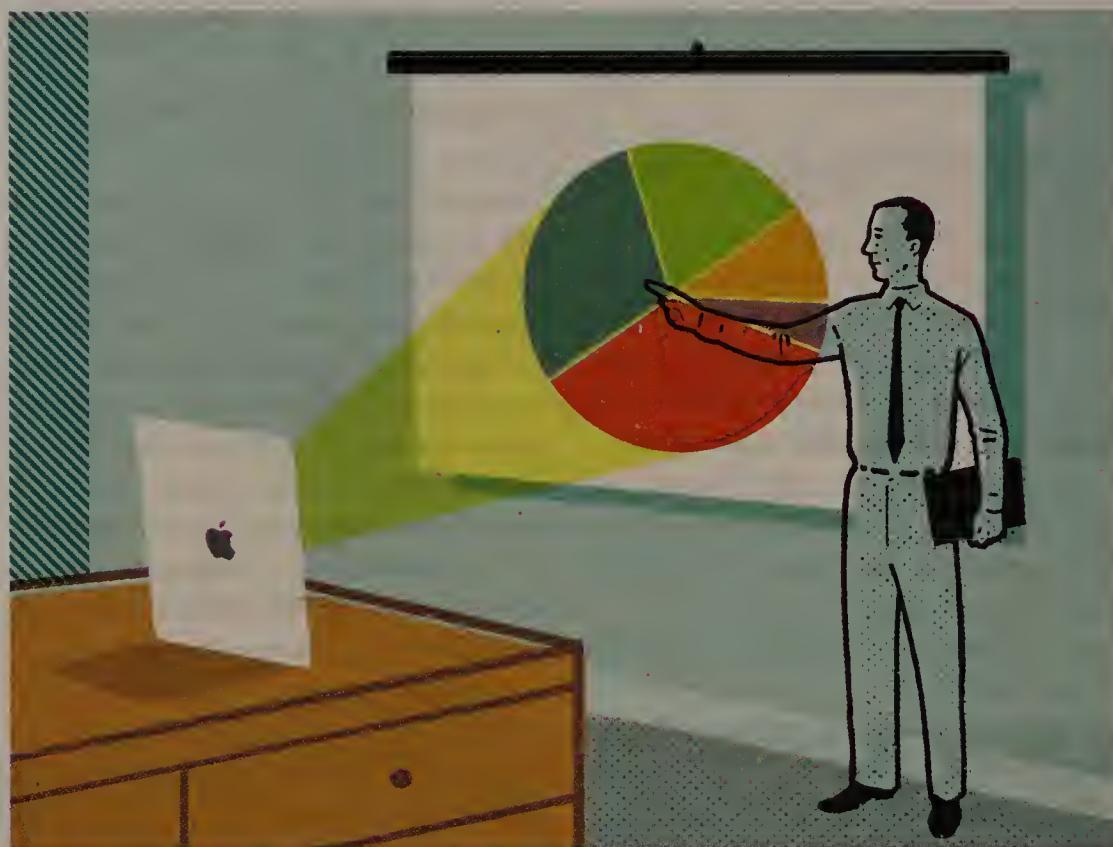
Targus's \$64 Bluetooth Wireless Keyboard for iPad (targus.com)

THE iPAD

PRESENTER'S TOOLKIT

HARDWARE, APPS, AND TIPS FOR GIVING PRESENTATIONS FROM YOUR iPAD.

BY JOE KISSELL



The iPad is a fantastic tool for making live presentations. In the App Store, you can find hundreds of apps designed to create, control, and facilitate presentations. If you rely on your iPad for such tasks, you'll want to collect some hardware, software, and know-how to make the process smooth and flexible.

HARDWARE

If you're giving a presentation to one or two people, you can show it on the iPad's

screen. For larger groups, you probably want to use a projector, a TV, or some other external display, so you need a way to get your presentation onto the screen.

The most reliable method (if you have an iPad 2 or later) is to use an adapter that connects to the display's input. Most projectors still use VGA inputs, so a VGA adapter is a must. Apple sells the \$49 Lightning to VGA Adapter and the \$29 30-pin to VGA Adapter. (I never go without one of these even if I plan to give a wireless presentation, for reasons I'll explain in a moment.) For a display with an HDMI

input, you will need either the \$49 Lightning Digital AV Adapter or the \$39 30-pin Digital AV Adapter. If your presentation has audio (other than your voice), also carry a cable to connect your iPad's headphone jack to the amplification system; depending on the display, you might get audio via HDMI, but you definitely won't with VGA.

Cables limit your mobility, however. I like to walk around the stage while I talk, and I've had cables fall out of my iPad during a presentation. Sometimes I can use another iOS device, such as my iPhone, as a remote control for the iPad. For example, Apple's free Keynote Remote app lets me do that if I'm using Keynote for my presentation. In practice, though, I've found this to be a finicky setup.

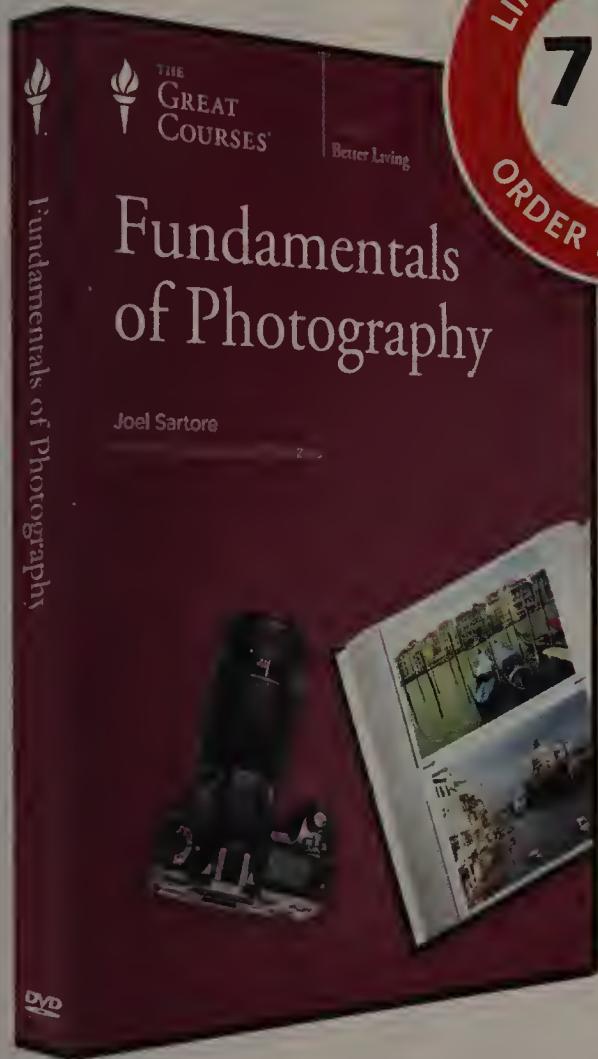
If your iPad runs iOS 5 or later, you have a better option: AirPlay mirroring, which lets you beam audio and video from your iPad to another device over Wi-Fi. A \$99 Apple TV is the ideal AirPlay receiver, and it's small enough for you to pack in your bag. (It has only an HDMI output, so if you'll need to use a VGA display, pick up an adapter such as the \$60 Kanex ATV Pro.) If you have a computer available, you can install software that turns it into an AirPlay receiver, and then hook the computer to the external display. Two such options, both for Mac or PC, are the \$15 AirServer and Squirrels' \$13 Reflector.

To use AirPlay mirroring, double-press the Home button, swipe the multitasking bar toward the right, and tap *AirPlay*. Tap the name of the device you want for mirroring, and set the Mirroring switch to *On*.

A word of caution: Your iPad and the receiver must be on the same Wi-Fi network, and the network must have several ports open (ports 80, 443, and 3689 for TCP; port 554 for TCP and UDP; and port 5353 for UDP). I've been to conferences where the public Wi-Fi networks

Key Accessory

Apple's Lightning to VGA Adapter (or a comparable 30-pin version) allows you to connect your iPad to a projector.



Learn the Inside Secrets of Professional Photographers

Photographs can preserve cherished memories, reveal the beauty of life, and even change the world. Yet most of us point and shoot without really being aware of what we're seeing or how we could take our photo from good to great.

Just imagine the images you could create if you trained yourself to "see" as the professionals do. With **Fundamentals of Photography**, you'll learn everything you need to know about the art of taking unforgettable pictures straight from *National Geographic* contributing photographer Joel Sartore—a professional with over 30 years of experience. Whatever your skill level, these 24 engaging lectures allow you to hone your photographer's eye, take full advantage of your camera's features, and capture magical moments in any situation or setting imaginable.

Offer expires 08/30/13

1-800-832-2412

WWW.THEGREATCOURSES.COM/7MACW

Fundamentals of Photography

Taught by Joel Sartore,
Professional Photographer
NATIONAL GEOGRAPHIC MAGAZINE

LECTURE TITLES

1. Making Great Pictures
2. Camera Equipment—What You Need
3. Lenses and Focal Length
4. Shutter Speeds
5. Aperture and Depth of Field
6. Light I—Found or Ambient Light
7. Light II—Color and Intensity
8. Light III—Introduced Light
9. Composition I—Seeing Well
10. Composition II—Background and Perspective
11. Composition III—Framing and Layering
12. Let's Go to Work—Landscapes
13. Let's Go to Work—Wildlife
14. Let's Go to Work—People and Relationships
15. Let's Go to Work—From Mundane to Extraordinary
16. Let's Go to Work—Special Occasions
17. Let's Go to Work—Family Vacations
18. Advanced Topics—Research and Preparation
19. Advanced Topics—Macro Photography
20. Advanced Topics—Low Light
21. Advanced Topics—Problem Solving
22. After the Snap—Workflow and Organization
23. Editing—Choosing the Right Image
24. Telling a Story with Pictures—The Photo Essay

Fundamentals of Photography

Course no. 7901 | 24 lectures (30 minutes/lecture)

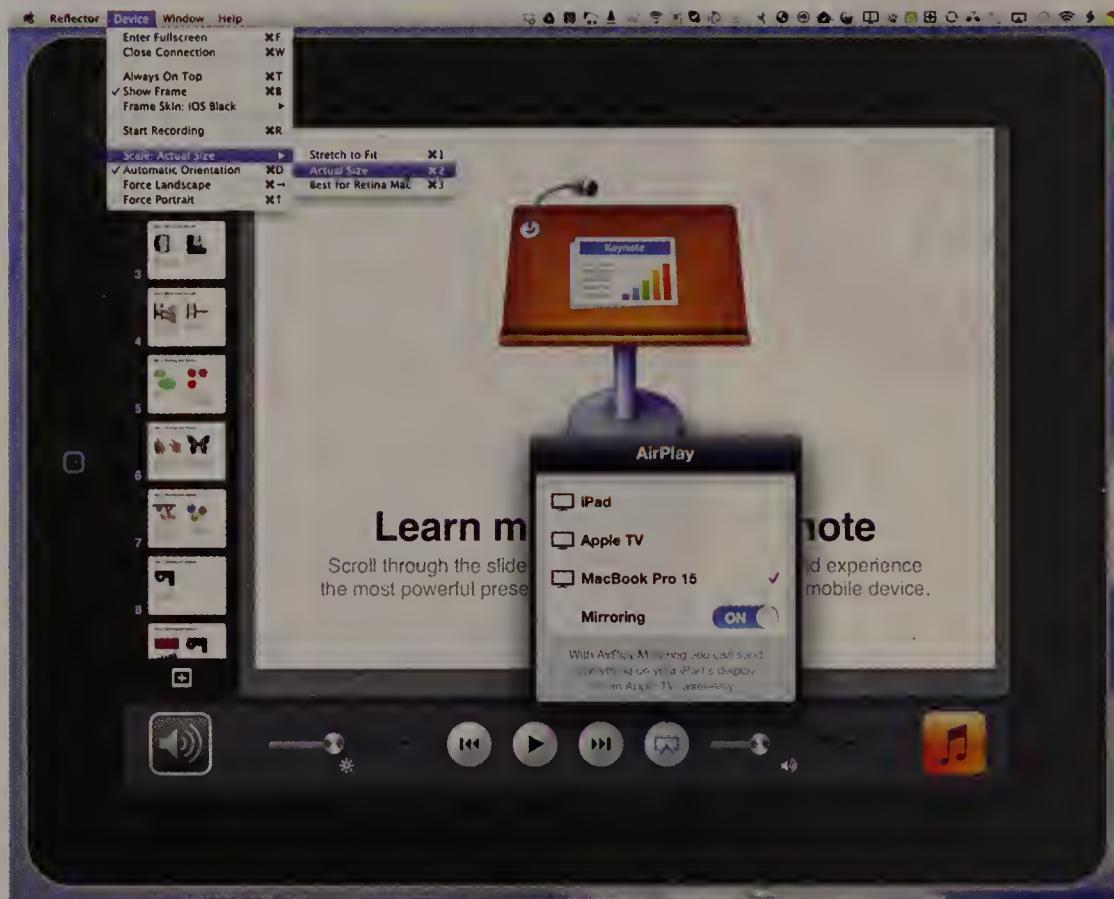
SAVE \$185

DVD ~~\$254.95~~ NOW \$69.95

+\$10 Shipping, Processing, and Lifetime Satisfaction Guarantee
Priority Code: 83686

Designed to meet the demand for lifelong learning, The Great Courses is a highly popular series of audio and video lectures led by top professors and experts. Each of our more than 400 courses is an intellectually engaging experience that will change how you think about the world. Since 1990, over 10 million courses have been sold.

Features



blocked one or more of those ports. You might be able to create an ad hoc network on your Mac (choose *Create Network* from the Wi-Fi menu), but that may prevent your Mac from connecting to the Internet. You may be able to use an Airport Express or a similar device to set up a private Wi-Fi network, but the last thing you want to do is fiddle with wireless settings when you're supposed to be presenting. That's why I have a VGA adapter as a backup.

SOFTWARE

As I noted earlier, the list of iPad presentation apps is a mile long. Here are a few major categories, with examples of each.

Conventional slides: If you favor the slideshow (or "deck") metaphor, Apple's \$10 Keynote for iOS is the iPad app to beat. It's powerful and easy to use, and your files sync automatically to other iOS devices and to the Mac version of Keynote.

Although Microsoft's PowerPoint isn't available on the iPad, numerous office suites can edit and display documents in PowerPoint format. Most such apps, however, offer only a simplified display that lacks builds, animation, transitions, and other effects. If you made a PowerPoint presentation on a Mac or PC and want to display it on an iPad with as much

AirPlay Receiver With Reflector software you can mirror your iPad screen onto your Mac or PC—either full-screen or in a separate window, with an optional iPad frame.

fidelity to the original as possible, Brainshark's free SlideShark is a good choice. SlideShark stores a copy of your presentations in the cloud, and it offers several plans ranging from free to \$149 per year.

Nonlinear presentations: If linear slideshows seem passé, use an app that approaches presentations differently. Prezi for iPad gives you an infinite canvas

on which to place words, images, and video; you can then pan around, zoom in or out, rotate the canvas, and add effects. (The app and basic service are free; for additional features, including nonpublic presentations, you'll pay at least \$5 per month.) Plimse's \$5 Scrollshow allows you to add images, text, and animation over a continuously scrolling panoramic background. Transition Technologies' \$5 MindShow uses slides but permits you to arrange them as a mind map on a canvas that only you can see; you can then alter your path through the material in real time, based on audience feedback.

Specialized presentations: If you want to create interactive presentations with real-time annotations, remote control of a Mac's screen, and other custom elements—including the option to save your presentation as a screencast with voiceover—check out SP Controls' free Doceri. Lawyers looking for a courtroom-presentation tool may like Saurian's \$90 TrialPad. And for sales presentations, there's Plotline Media's free StoryDesk, which lets you create elaborate, interactive presentation apps in a Web browser, and view or edit them on an iPad; it relies on a cloud-based content management system that costs \$29 per month to use.

Regardless of the apps you choose, remember that they're merely tools made to provide visual reinforcement for your presentation. In the end, there's no substitute for a solid outline, well-honed speaking skills, and lots of practice.



Not Just Static Screens
Combining slides, timeline editing, screencasting, and screen sharing, Doceri makes unique interactive presentations.

NEW OPPORTUNITIES WITH NEW DOMAINS

Create your perfect web address with **over 500 new top-level domains** from 1&1! Short, memorable domains like fashion.blog and auto.shop are ideal for getting your website found easily. Pre-reserve your preferred domain for **free**, **with no obligation!** With regular updates from 1&1 you don't miss the chance to get the domains you want. Find out more on our website 1and1.com

**PRE-ORDER
FREE**

WITH NO OBLIGATION!*



1&1

Member of



DOMAINS | E-MAIL | WEB HOSTING | eCOMMERCE | SERVERS 1and1.com

* Pre-reserving a domain name is not a guarantee that the domain will be registered. If your requested domain has already been pre-reserved, you will be added to a waiting list for that domain. Other terms and conditions may apply. Visit www.1and1.com for full promotional offer details. Program and pricing specifications and availability subject to change without notice. 1&1 and the 1&1 logo are trademarks of 1&1 Internet, all other trademarks are the property of their respective owners. © 2013 1&1 Internet. All rights reserved.

BUYING GUIDE:

iPAD CASES

**EVERY TABLET DESERVES PROTECTION,
BUT WHAT TYPE OF CASE IS RIGHT FOR YOURS?**

BY LEAH YAMSHON

Whether your iPad is new or old, full size or mini, you should have a case or a bag to protect it. As much as you might want to show off its sleek looks, it's vulnerable to scratches and scuffs that will mar that handsome exterior.

Keep in mind that, apart from the third- and fourth-generation iPads, each full-size iPad model has a slightly different shape from its predecessor. A case or bag made for one may not fit another, particularly when it comes to the original iPad. Many iPad 2 cases also fit the third-gen iPad, but not all do. Cases for the third-gen iPad should also fit the iPad 2 and the fourth-gen version, but you'll see some exceptions. And the Lightning port on the fourth-gen iPad is much smaller than the 30-pin dock-connector port on the third-gen one, so if a case has a cutout on the bottom for the Lighting port, it won't be large enough to fit the older port.

Since only one iPad mini model exists to date, any case made for the mini will fit your particular mini.

Choose a case that doesn't block the iPad's speaker and dock-connector or Lightning port, its headphone jack and microphone, its front and back cameras (on all models apart from the original iPad), and its buttons and switches—unless, of course, the case is designed so that you must take your iPad out to use it.

As for bags, if you see one that claims to be ideal for iPads and netbooks, be skeptical. Most such bags end up being a poor fit, since the iPad is much thinner than a typical netbook and will swim around inside. The same advice goes for the iPad mini: Bags made for the regular iPad are likely to be too large for the mini.

APPLE SMART COVER

As its name implies, Apple's Smart Cover for the iPad 2 or later (polyurethane, \$39; leather, \$69) and for the iPad mini (poly-

urethane, \$39) is just a cover, and one that protects only the iPad's screen. But oh, what a clever cover it is, containing neatly arranged magnets that let the Smart Cover's hinge attach to the edge of the iPad, adhere to the iPad's screen, and sleep and wake the iPad when you close and open the cover, respectively. The cover also rolls up to act as a typing and viewing stand. (If you want to use the Smart Cover with another case, make sure that the latter leaves room for the cover to attach to the left side of the iPad.) For the full-size iPad, Apple also makes the Smart Case (\$49), which combines a polyurethane shell with a Smart Cover.

SHELLS AND SKINS

Shells and silicone skins generally cover the back and sides of your iPad, offering moderate protection while letting you use the iPad in its case. They range from thin polycarbonate coverings to soft-silicone skins to polycarbonate-and-rubber cases to chunky, molded-grip gaming jackets. Shells and skins are likely to be model-specific.

RECOMMENDATIONS

Cygnett WorkMate (iPad mini, \$40; us.cygnett.com)

OtterBox Defender Series (iPad mini, \$70; iPad 2 and newer, \$90; otterbox.com)

X-doria Engage (iPad mini, \$20; iPad 2 and newer, \$30; x-doria.com)

SLEEVES

Sleeve cases protect your iPad inside another bag, such as a backpack, briefcase, or messenger bag. Some are simple slide-in designs, while others zip closed or sport a flap closure for added security. Most fit all iPad models; confirm that the model you choose is designed for the iPad mini if that's what you need.

RECOMMENDATIONS

Grove Wool Sleeve (iPad mini, \$59; all





BRENTHAVEN
PROSTYLE
COURIER

full-size iPads, \$79;
[grovemade.com](#))

OnGuard Sleeve (iPad mini, \$45; all full-size iPads, \$50; [k2wusa.com](#))

Rickshaw Bagworks Customized Sleeve (iPad mini, \$29 to \$39; iPad 2 and newer, \$39 to \$49; [rickshawbags.com](#))

FOLIO CASES

Folio-style cases offer all-over protection for your iPad, but flip open to give you easy access to the iPad's screen without requiring you to remove the tablet from the case. If you are looking for stylish protection, this is it. A folio case designed for the original iPad won't fit the iPad 2 or newer, and vice versa. A folio case made for the iPad mini, of course, fits only the iPad mini.

MOSHI
IVISOR

RECOMMENDATIONS

Dodocase Classic (iPad mini, \$60; iPad 2 and newer, \$60; [dodocase.com](#))

Incase Nylon Portfolio (third- and fourth-generation iPad, \$70; [goincase.com](#))

Speck FitFolio (iPad mini, \$35; iPad 2 and newer, \$40; [speckproducts.com](#))

BAGS

A bag lets you carry your iPad along with other gear, and you can use it to tote your daily stuff even when you aren't carrying your iPad with you. Bags generally fit all models of the iPad; consider an extra case for your iPad mini for a snug fit.

RECOMMENDATIONS

Booq Cobra Courier XS (all full-size iPads, \$145; [booqbags.com](#))

Brenthaven ProStyle Courier (all full-size iPads, \$70; [brenthaven.com](#))

Hex Drake iPad Bag (all full-size iPads, \$40; [shophex.com](#))

CARRYING PACKS

Sometimes you want to carry more than just your iPad, but you don't want to lug a bulky bag or backpack around. A carrying pack protects your iPad but also holds cables, a charger, and sometimes even a stand-alone Bluetooth keyboard (see page 44). Most carrying packs will hold all generations of the full-size iPad; again, look for a pack optimized for the iPad mini if that's what you require.

RECOMMENDATIONS

Mujjo iPad Sleeve (iPad mini, \$58; any full-size iPad, \$64; [mujjo.com](#))

STM Jacket D7 (iPad mini, \$25; [stmbags.com](#))

WaterField Designs iPad Wallet (iPad 2 and newer, \$79) and **iPad Travel Express** (third- and fourth-generation iPad, starts at \$69; iPad mini, \$59; [sfbags.com](#))



BODY FILMS

A body film—a thin layer of superprotective adhesive material—protects the sides and back of your iPad without adding bulk. You can remove most types without leaving sticky residue. Some also include a screen film (see the next section). Although the models listed here are designed for third- and fourth-gen iPads, each is also available for the other models and for the mini.

RECOMMENDATIONS

BodyGuardz UltraTough Clear Skins (\$30; [bodyguardz.com](#))



INCASE
NYLON
PORTFOLIO

OtterBox Clearly Protected (\$30; [otterbox.com](#))

Zagg Invisible Shield (\$40; [zagg.com](#))

SCREEN FILMS

Screen films protect the iPad's display from scratches without affecting touch-screen performance; a few also aim to reduce glare. Unfortunately, many films are difficult to apply, and some actually make glare and fingerprints worse. If you're patient and have a steady hand, those listed below are the best options.

RECOMMENDATIONS

BodyGuardz ScreenGuardz (\$20 for screen film only, \$30 bundled with body film; [bodyguardz.com](#))

Moshi iVisor (\$30; [moshimonde.com](#))

Zagg Invisible Shield (\$30 for screen film only, \$40 bundled with body film; [zagg.com](#))



The Green Mac

ILLUSTRATIONS BY
ANDREW BANNECKER

Talk about Apple's environmental impact usually focuses on the materials that compose the company's products, and on the manufacturing processes it uses. But we should also pay attention to the downstream impact of those products—what we do with them. We turn them on, consuming energy. And we eventually throw them away.

Here, we've assembled tips for disposing of your old Apple gear responsibly. We've also put received wisdom about Mac energy consumption to the test. Finally, our tips will help you save money.

How to Recycle Old Apple Gear



WHAT TO DO WITH MACS, iPADS, iPHONES, AND iPods

By Lisa Schmeiser

Make this the year that you finally recycle all the ancient MP3 players, toner cartridges, ethernet cables, and bulky monitors out of the closets, garages, and spare rooms where they've been lurking. Your home will feel more modern, and you'll be doing your part to boost the low 27 percent rate for electronics recycling in the United States.

Sure, it would be easier just to dump all your old, unwanted electronics in the trash. However, old computers and their related peripherals contain a lot of heavy metals—lead, cadmium, mercury—that are bad for people's health when they get into the soil and water. In addition, when old electronics hit the trash heap, they're out of a recycling stream that can cut energy costs for future electronics production.

But if the environmental concerns don't grab you, consider the business benefits of recycling electronics: According to the Institute for Local Self-Reliance (ilsr.org), compared with disposal, computer reuse created 296 jobs per every 10,000 tons of material disposed of each year. The Electronics TakeBack Coalition (electronicstakeback.com) estimates that the U.S. generates about 1.7 million tons of electronic waste annually—so imagine the job potential that's still there. And if those arguments don't sway you, maybe the long arm of the law can: It's illegal in 25 U.S. states to simply trash your old electronics.

For all those reasons, help keep the planet clean by recycling your old stuff. Here's how to get started.

Before You Discard Any Electronics

The first step on your recycling journey: Make sure that none of your personal data will be leaving the house along with your soon-to-be-discarded electronics. As a bare minimum, make sure to do the following:

If you're using Apple's iTunes to manage your digital music and video, deauthorize any device you're recycling. "But it's dead" is no excuse: Apple expects you to deauthorize all of your devices via the iTunes app, and then reauthorize the ones that are still alive (and hanging around after the purge). Note that the Deauthorize All option works only once a year, so use it wisely.

If you're recycling an iPhone, do a complete reset of your phone to wipe out its data and restore it to its factory settings. First, however, make sure that you've got your data backed up somewhere else, and that you've double-checked Apple's instructions on how to reset your phone.

If you're recycling a computer or a hard drive, don't assume that simply deleting files will wipe the data off your system, because it won't. All that does is reformat the space on the drive, and the data can be snagged using tools that are designed for disaster recovery.

You need to get a disk-wiping program, preferably one that meets the U.S. Department of Defense's Media Sanitation Guidelines, and set aside a few

hours. What a good disk-wiping program will do is write all sorts of data on your hard disk multiple times, effectively obscuring your original data with newer, nonpersonal stuff. This takes some time, so don't leave it to the morning of your planned recycling run. Mac users looking for disk-wiping programs can use Apple's built-in Disk Utility, or they can cough up \$25 for Mireth Technology's ShredIt X (mireth.com).

Yes, Disk-Wiping Matters

If you're tempted to skip this step, consider that in 2003, graduate students at MIT bought 158 used hard drives—about 60 percent of them reformatted and 45 percent with no files at all—and were able to pull more than 5000 credit card numbers, personal and corporate financial records, and medical records from these "wiped" drives. While the odds of a graduate student at an elite technical university pulling your personal data off that old MacBook and using it for evildoing are low, why not make them even lower? (Some people recommend physically drilling holes in hard-drive platters, but even that may not suffice.)

If you're recycling a digital camera and its attendant memory card, you'll need to wipe the card too. The best way to do this is to stick any memory card back in

the camera and use the camera's built-in Format Card option to wipe the memory card clean of all data.

If you're getting rid of memory sticks, USB flash drives, and other small storage drives, reformat the drive, preferably with a disk-writing program. Remember, throwing out files doesn't actually delete the data.

If you're getting rid of old printers, scanners, or fax machines, you'll need to

On to Recycling

Broadly speaking, you have three recycling options: You can drop off your unwanted stuff in person somewhere; you can ship it away; or you can donate it to a willing organization.

Drop it off in person: The advantage to dropping off your gear is that, generally, you don't need to plan ahead and print out prepaid labels (as you would if you were shipping things away); you just

Your first step: Make sure that none of your personal data will be leaving the house along with your soon-to-be-discarded electronics.

purge the appliance's memory. The good news is that most consumer-grade printers, scanners, and fax machines don't have internal hard drives. (Most of the time, the document you're printing or scanning is stored in RAM in the appliance's hardware.) All you have to do is disconnect your appliance from any computer, and then turn it on and go through the settings until you find the option to reset everything to factory settings. That should flush out any residual data or personal information such as your fax number.

toss your stuff in the car and go. Several national retail chains have set up recycling options for everything from batteries to toner cartridges to mobile phones. You can, for example, bring your old iPod to any Apple Retail Store and get 10 percent off a new one. (Note: This discount does not apply to iPod shuffles.) For more on Apple's recycling programs, go to apple.com/recycling.

Some large chains have recycling programs as well. OfficeMax, for example, will take your old printer/toner cartridges, as will Walgreens.

Apple Recycling Program

[Reuse and Recycling Program](#)

[iPod and Mobile Phone Recycling Program](#)



Get an Apple Gift Card for your old device.

Send us your old iPhone, iPad, Mac, or PC for reuse or recycling. If it has monetary value, we'll apply that toward an Apple Gift Card. If not, we can recycle it responsibly for you.

[Get started](#)



Recycle your iPod or mobile phone responsibly.

At no cost to you, send us your iPod or any mobile phone by mail, and we'll recycle it for you. Or bring your old iPod to an Apple Retail Store and get 10 percent off a new one.

[Get started](#)

Apple's Recycling

In its program, you bring your old Apple gear to its retail stores and get a discount on new versions of the hardware.



When you find a local recycling center, call ahead and ask some questions about what it does with the electronics you'll leave behind.

Finally, who among us doesn't have a rat's nest of cables that have been hanging around since the Clinton administration? Happily, most electronics recycling places will take any and all cables you have, as well as the gadgets themselves, because the cables have copper that can be stripped out. If you really want to brighten the day of whoever is dealing with your cables, take the time to untangle them, sort them by size, and use twist ties to put each cable into a compact little bundle.

You also have the option of dropping off your unwanted stuff at a local recycling center. LG, Sony, and Toshiba all provide location-based lookups for electronics recycling centers that take their wares. You can also find one through eStewards (e-stewards.org) or Greener Gadgets (greenergadgets.org). When you do find a center, call ahead and ask the following questions:

> Do you accept electronic devices from individuals, or only businesses?

> What are your policies on destroying personal data that may still be on used computers or cell phones?

> Do you destroy storage media?
> Can I get a record of the methods used on my old electronics?

> What environmental management guidelines do you follow?

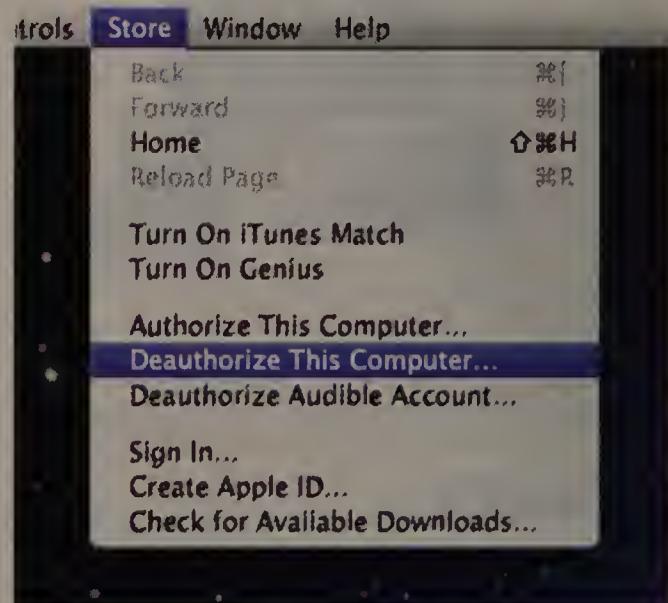
> What percentage of the materials you collect is recycled, and what percentage is disposed of?

> What fees do you charge for disposing of computer monitors? Televisions? Or do you charge a flat fee for a carload of items? (Fees for large items or a carload are not uncommon. The first time I used a recycling center, some 11 years ago, I paid \$35 to get rid of two laptops.)

Something to Remember Don't forget to do the little things like deauthorizing the old iTunes-running computers that you're giving away.

That experience made me appreciate the free programs set up by manufacturers.)

A third option that's cropping up across the United States is the electronics recycling fundraiser. You'll often see schools or civic groups doing these, where a coordinating group, such as a middle-school orchestra's booster club, charges a nominal fee of \$25 or so for all the electronics you care to leave with them. The advantage here is that you don't have to go chasing all over the place to drop off your stuff. The disadvantage is that Lincoln Middle School's first clarinet chair may do a great job of hustling your old printer cartridges out



of your car trunk, but she probably can't tell you whether there's a decent data-management policy in place at the recycling endpoint.

Ship it away: The Web is chockablock with sites that promise to pay you cash money for your old junk. Some manufacturers and retailers have gotten in on the game too. Apple, for example—working in conjunction with PowerOn Services (poweron.com)—promises a gift card carrying whatever cash value your old computers, iPhones, or iPads had. (And if your gear doesn't qualify, it'll recycle them for you at no charge.)

If you just want to toss everything in one giant box and never think of it again, check out the services that GreenDisk (greendisk.com) offers. It'll recycle almost anything (but draws the line at electric toothbrushes). Note that this convenience does not come free—getting rid of your Jurassic monitor starts at \$35.

Donate it: If your older gear is still in working order, consider giving it away instead of sending it on to its next life. But before you make plans to gift your local preschool with a Performa 6115, stop and consider whether your donation will be useful to any given organization. Phones, computers, and printers that don't work aren't going to magically fire up once they've been tossed in the Goodwill bin; if you can recycle them on your own, do so, and save the folks at the nonprofits the effort.

If you have relatively modern, working electronics and want to get them into the hands of people who can use them, start with the Cristina Foundation (cristina.org), which matches donors of used computers and other electronic hardware with a local charity or school in their area. Another organization to consider is the World Computer Exchange (worldcomputerexchange.org), which sells or helps make available low-cost refurbished desktop computers and peripherals to developing countries.

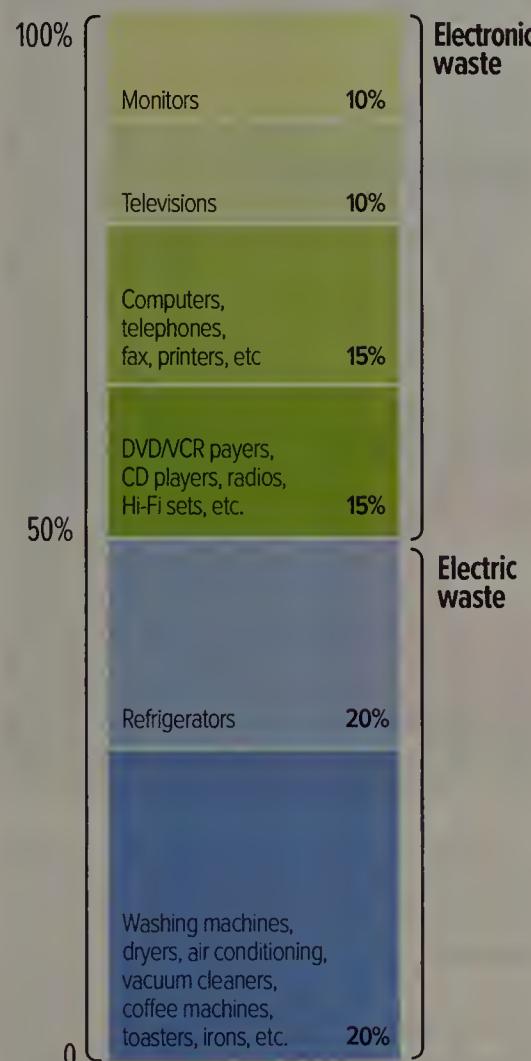
In addition, a crop of charities seeks to pass along mobile phones to people who desperately need them—groups such as the National Coalition Against Domestic Violence (ncadv.org), Cell-

phones for Soldiers (cellphonesforsoldiers.com), Operation Gratitude (operationgratitude.com), Hope Phones (hopephones.org), Secure the Call (securethecall.org), and the 911 Cell Phone Bank (911cellphonebank.org).

And keep in mind that if you're giving to a registered nonprofit organization, you may get some tax benefits from your donation (you'll need a receipt with the company's Tax ID on it).

Lisa Schmeiser comes by her recycling know-how by virtue of living in the recycling-conscious San Francisco Bay Area. She's a writer, reporter, and editor. Follow her on Twitter at @lschmeiser.

What is e-waste?



Additional categories: lighting equipment (fluorescent tubes), toys, sports, and recreational equipment; electric and electronic tools, drills, sewing machines, lawn mowers, etc.; surveillance and control equipment, medical instruments, automatic ticket machines.

Source: EMPA Swiss Federal Laboratories for Materials Testing and Research; definition according to the European Union Directive



BY OWC LARRY | blog.macsales.com

Add Capacity and Boost 2010–2011 iMac Performance

Now Install up to three SSDs and/or up to a 4TB Hard Drive

Let's face it...upgrading the ultra-slim 2012 iMac is no easy task. In fact, a user-upgradeable hard drive doesn't exist at this point (rest assured we're hard at work on this). That leaves the pricey factory option as the only current performance upgrade option. Fortunately, those looking to help their previous iMac model run as well as—if not better than—the new hard-to-upgrade model need look no further than OWC.

In the January issue of Macworld, we explained how our Data Doubler delivers a huge performance or capacity boost to a Mac mini, MacBook or MacBook Pro (www.macsales.com/blog52). This month, we're focused on how to give your 2010–2011 iMacs a major boost with our mail-in Turnkey service (www.macsales.com/imacprogram) or with our DIY Kits (www.macsales.com/imacdij) that feature free step-by-step installation videos.

Looking to help your 2011 iMac pack a serious punch? Upgrade the main hard drive bay with a high-performance OWC Mercury 6G SSD or a higher capacity hard drive. Need elite performance? You can upgrade up to three (yes, three!) 6Gb/s SSDs to get a total of 1.44TB capacity and incredible speeds. Or, you can install two SSDs along with a 4TB hard drive for the best of both speed and capacity worlds!

And if you have 2010 iMac 27" model, you can choose from the same options as the 2011 models and breathe new life into your machine so it runs better than new!

Have an even older iMac? Don't worry. Just check us out at www.macsales.com/blog to see how OWC makes upgrading your machine easy, too!

Eight Mac Energy Myths



WHAT REALLY AFFECTS MAC ENERGY USE? WE PUT SOME ASSUMPTIONS TO THE TEST.

By James Galbraith

We're all interested in saving energy. Maybe you conserve to be a better global citizen or to save money on your utility bills. Maybe you use your laptop on the go and want to squeeze every possible minute of battery life out of it. But what if the daily computing practices you follow to save

energy end up wasting it instead? What if your assumptions about Mac power usage are wrong? To investigate this possibility, Macworld's lab compiled a list of eight widely held opinions about energy consumption and conservation, grabbed our trusty power meters, and started logging power usage.

We employed three systems for our

measurements: a 21-inch iMac and a 15-inch MacBook Pro, both of 2011 vintage; the third was a 2012 Mac Pro tower system. We connected them to a Watt's Up Pro power meter (wattsupmeters.com) equipped with a USB connection that let us capture energy usage logs while we ran various tests. Here's what we found out from those logs. (Our icons rate whether we found the myth to be fact, half-true, or fiction.)

1. Laptops use less energy than desktops.



The iMac we tested averaged around 83W with the screen set to full brightness, and with Bluetooth and Wi-Fi enabled. That's six times the 13.4W that the MacBook Pro drew at similar settings when fully charged. When the MacBook Pro's battery was at a 50 percent charge and plugged in, however, that 15-inch laptop drew 80W—just about the same as the iMac.

The Mac Pro tower is a different beast altogether. Our 2012 model with dual 6-core 2.4GHz Intel Xeon processors, a 1TB hard drive, ATI Radeon HD 5770 graphics, and 12GB of RAM attached to a 27-inch Apple Cinema Display drew an average of 192.3W when on, but idle.

Takeaway: Over the course of a day, laptops do consume less energy than desktops.

2. Turning off Bluetooth preserves your MacBook's battery life.



We detected little, if any, difference in our laptop's energy draw when Bluetooth was enabled versus having Bluetooth disabled. In fact, our MacBook Pro (with a solid-state drive) drew an average of 13.9W when Wi-Fi and Bluetooth were off versus a draw of 13.8W with Wi-Fi off but Bluetooth on.

Next, we paired a Bluetooth mouse and keyboard with our MacBook Pro with SSD, and ran the tests again. This time, the power draw increased a touch, to 14.3W. Looking at the OS X's Energy Saver preferences, we noticed that the estimated battery life of the charged MacBook Pro dropped from 7 hours, 24

minutes with Bluetooth turned off to 7 hours, 5 minutes with Bluetooth turned on and the wireless keyboard and mouse paired with the system.

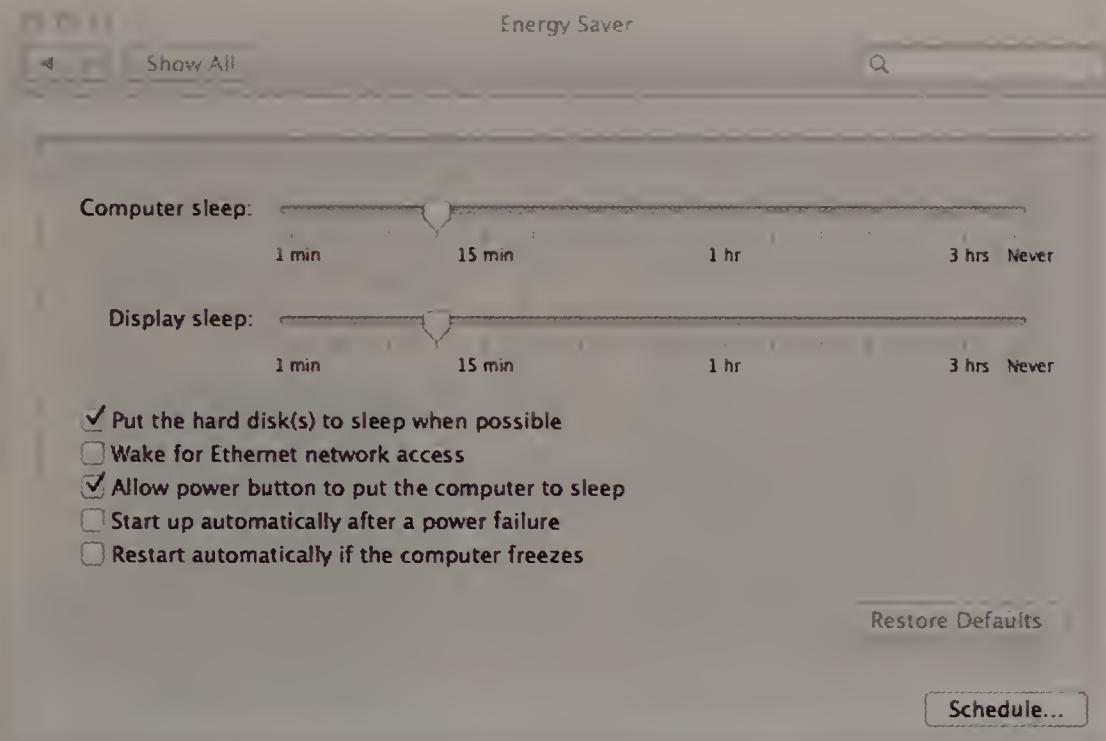
Takeaway: Though the meter didn't show much change in the amount of power our laptop drew with Bluetooth off versus on, as long as nothing was paired with it, the power draw did increase—and the estimated battery life decreased—when we paired a wireless keyboard and mouse with the laptop.

3. Dimming the screen on your MacBook prolongs battery life.



The validity of this hypothesis is easy to demonstrate.

At full brightness, with a fully charged battery and with Wi-Fi and



We detected little, if any, difference in our laptop's energy draw when Bluetooth was enabled versus when it had Bluetooth disabled.

Bluetooth turned off, the MacBook Pro drew about 13.4W of power. When we set the screen to half brightness, the power draw dropped sharply to 9.4W. And when we set the screen to the lowest level that still allowed us to make out what was on the display, the power draw fell further, to 8.2W.

Takeaway: Turning down the brightness on your laptop's screen is an easy, and simple, way to extend the length of time that your laptop can run between charges.

4. You'll save energy if you disconnect all your chargers and peripherals when you're not using them.



Some of your peripherals may continue to suck power when they are turned off but still plugged in; but the Macs we tested did not. When plugged in—charged and idle—at full screen brightness, the MacBook Pro averaged 13.3W. When turned off but plugged in, it had a draw of 0.0W, according to our meter. Our 2011 21.5-inch iMac averaged 82.7W

Is It Asleep? A Mac continues to draw a small amount of power when set to sleep (rather than being turned off), so turning your computer off when not in use is a good idea.

when on but idle, but that figure dropped to an average of 0.1W when the iMac was turned off but remained plugged in.

We attached a 27-inch Apple LED Cinema Display to the iMac, plugged both of them into a power strip, and plugged the power strip into the Watts Up meter. This setup drew an average of 136W when it was idle but still switched on. The power strip alone drew zero power with nothing plugged into it. The display drew 0.2W when it was plugged directly into the power meter but not connected to the iMac.

With both the 27-inch display and the iMac plugged into the power strip, but turned off, the power meter reported a 0.5W power draw. When we turned the surge protector's power switch to off, the draw dropped to zero.

Takeaway: Turning off devices is sufficient. The power draw of our charged MacBook Pro plummeted to zero when we turned it off but left it connected to the power meter. Turning off the power strip also brought the power draw down to a zero reading.



Not So Bright
Reducing the brightness of a MacBook Pro's screen can significantly reduce the laptop's power draw.



5. If you use your Mac's default energy settings, you don't need to turn your computer off at the end of the day.



We found that both the MacBook Pro and the iMac drew power at a rate of around 1W once they were set to sleep.

Takeaway: Though the wattage level wasn't high, both Macs, when asleep, did continue to draw a small amount of power.

6. Your computer sucks in so much power when it starts up that you'll save energy by simply leaving it on.



A significant spike in energy draw occurs when you boot your Mac, but it settles down very quickly. Our MacBook Pro gobbled up to 40W during the first minute of boot-up, but the system's consumption dropped back to its 12W-to-13W average by the 90-second mark.

Takeaway: The Mac doesn't use much power when sleeping, about 16 watt-hours from 5 p.m. to 9 a.m., but that's more than it uses during the first minute of starting up.

7. Solid-state drives use less energy than regular hard drives.



At full brightness, with Wi-Fi and Bluetooth on and a regular hard drive installed, our

Which Saves Power? Whether an SSD uses less power than a regular hard drive may depend on the rotational speed of that hard drive and on the tasks being run by the drives.



to have used less power than the 3.5-inch, 7200-rpm hard drive in the iMac, but a bit more power than the 2.5-inch, 5400-rpm hard drive found in the stock MacBook Pro.

8. Bus-powered FireWire drives use more power than USB hard drives.



We connected a Western Digital My Passport Studio drive equipped with both USB 2.0 and FireWire 800 ports to our 15-inch 2010 MacBook Pro. With the drive mounted (but idle) via USB 2.0, the MacBook Pro's display set to full brightness, and the laptop fully charged and with Bluetooth and Wi-Fi turned off, the Watts Up Pro meter reported a draw of about 16.1W. With the drive attached via FireWire (but idle) and all other conditions the same, the meter registered 18.4W.

Our external drive drew less power, whether idle or in use, when connected over USB than when connected via FireWire.

MacBook Pro drew about 14W when idle. At the same settings, but with an SSD in place of the regular hard drive, the MacBook Pro drew just shy of 15W. When copying a 10GB file from the machine's desktop to a different folder on the same drive, the MacBook Pro drew 18.8W with the regular hard drive in place versus 20.1W with the SSD. When idle with Wi-Fi and Bluetooth on, the iMac averaged 82.7W using the hard drive and 77.6W with the SSD. In copying the file, however, the power savings disappeared, with the hard drive drawing approximately 85.3W while the SSD drew about 85.9W.

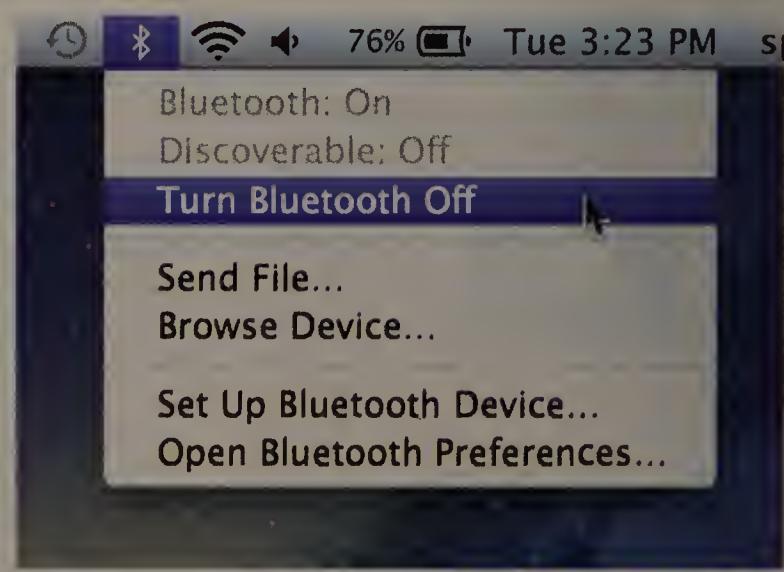
Takeaway: In our tests, the SSD appears

Bluetooth On? Bluetooth for peripherals can raise power draw and shorten battery life modestly—so turning it off can help.

While we performed a Time Machine backup, the MacBook Pro with USB hard drive used 25.1W versus 28.2W over FireWire 800.

Takeaway: Our drive drew less power, whether idle or in use, when connected over USB than when connected via FireWire.

James Galbraith is director of the Macworld Lab.





casper
SUITE

Focused on iPad.
Focused on business.

The Casper Suite is used by businesses that use iPads because of its unique focus on Apple. Whether it's your first deployment or you have been doing it for years, our products, services, and training are built to help your project succeed.

Learn more at: www.jamfsoftware.com/for-business

JAMF
software

Working Mac

Tips, Tricks, and Tools to Make You and Your Mac More Productive

Secrets of the Finder's Path Bar

This unassuming tool offers powerful shortcuts for working with files.

BY SHARON ZARDETTO

When you're working in a deeply nested folder (that is, a folder within a folder within...), the Finder in OS X offers you several options for moving back up through the hierarchy of folders toward your starting point. But only one of those options manages to provide both at-a-glance information and a number of powerful shortcuts for working with files: the path bar.

Open a Finder window (*Finder* → *New Finder Window*) and then choose *View* → *Show Path Bar*. The path bar, which appears at the bottom of all of your Finder windows, shows the complete path from your computer to the current folder. (A path consists of the entire series of subfolders that leads you to a specific folder or file.)

This is the only way you can see a folder's path when a Finder window is in the background, but that particular benefit is merely the most obvious of the conveniences the path bar provides.



Here are five other benefits you can reap, with only minor effort on your part, from the seemingly simple path bar.

Use the Path Bar to Access Folders

Is the path too long for its folder names to show in their entirety? Just point—no clicking necessary—to a truncated name,

Drag a File or Folder Into the Path Bar to Move It

You can avoid a lot of window juggling and folder opening by dragging things directly into path-bar folders. Did you notice a document or folder in the current window that should be elsewhere in the hierarchy? Just move it into the appropriate folder in the path bar (some-

The path bar, which appears at the bottom of all of your Finder windows, shows the complete path from your computer to the current folder.

and it will expand so that you can read it. This point-and-expand technique works even on background windows, whether you're in the Finder or in another app. Double-click a folder in the path bar to see its contents in the current window. Alternatively, open a folder into a separate window by ⌘-double-clicking its miniature in the path bar.

thing that you can't do with the Path menu available from a ⌘-click on the window's title).

You can even drag an item from one window into another window's path bar. To do so, just hover your cursor over the target folder for a moment so that the window you're dragging the item to becomes active.

Drag a Folder Out of the Path Bar to Move It

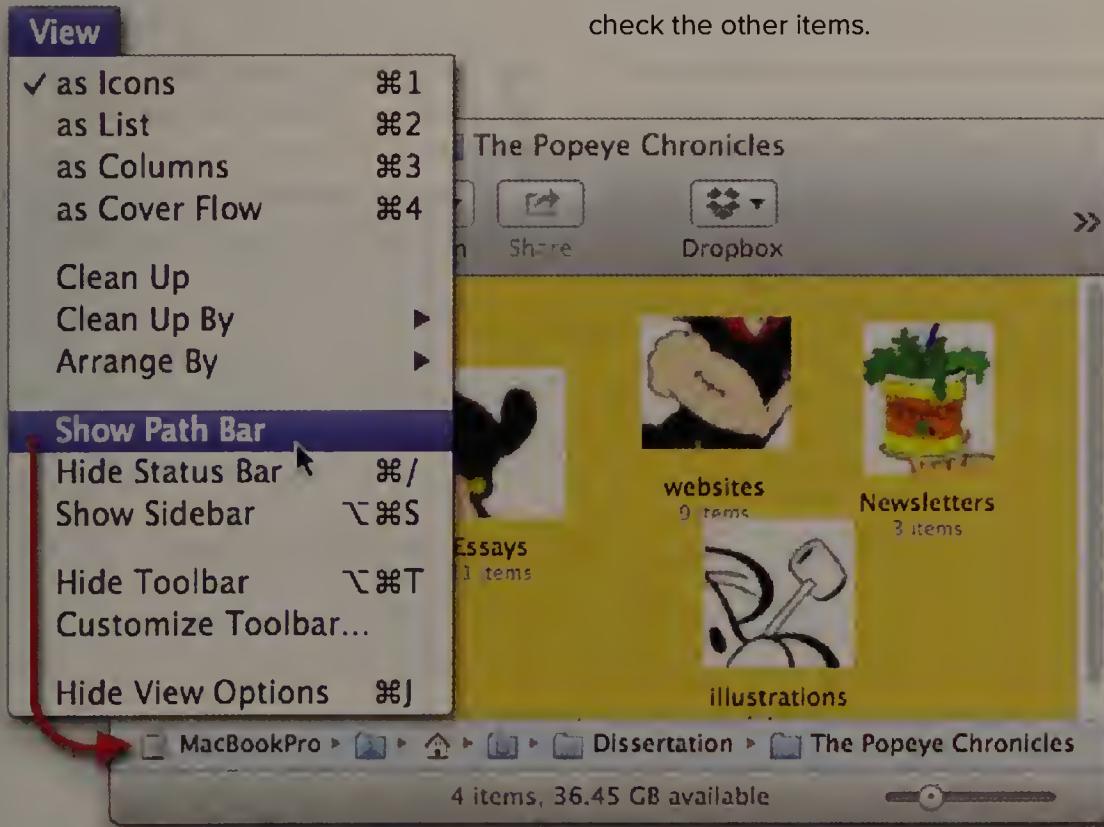
You can manipulate the folder icons in the path bar in many of the same ways you work with folders in windows.

You can, for example, drag a path-bar folder into any other folder or window, or onto the Desktop. Hold down **<Option>** as you drag to make a copy of the folder, or use **⌘-<Option>** to make an alias. Want to access one of those path-bar folders frequently? Drag it into the sidebar.

As is the case with standard folder icons, if you drop a path-bar folder in the wrong place, you can use *Edit* → *Undo Move* (**⌘-Z**) to put it back where it belongs. Or if you change your mind while you're dragging the folder (when making an alias or copy, for example), you can press **<Esc>** to cancel the operation, and the "drag ghost" will disappear from the arrow pointer.

Drag a Folder Within the Path Bar to Move It

Working with files in the path bar can be a big timesaver. If you notice that something is in the wrong place in the path (say, for instance, you accidentally put FebNews inside JanNews instead of



The Path Bar Revealed Open a window and then select *View* → *Show Path Bar* to see the path bar at the bottom of your Finder windows.

inside the parent folder Newsletters), you can fix everything within the path bar by moving the FebNews folder icon into the Newsletters folder icon.

Navigate Search Windows With the Path Bar

The path bar functions as an everyday, every-window convenience, but it's especially useful when you're working with Finder search windows.

A standard window in OS X displays the contents of a single folder, and the path bar shows its path. In contrast, a Finder search window lists items gathered from all over the place, and its path bar shows you where any particular item you select lives. (If you make multiple selections, the path bar cleverly shows the nearest folder that all of those selections have in common.)

So if you get a dozen hits in a search for, say, FebNews, you can select each one of those results in turn to see what its path is. When you find the particular one you want, you can check to see what else is in its folder by double-clicking that folder in the path bar or—even better in most circumstances—by **⌘-clicking** to open it in a separate window, keeping your found list at hand so that you can check the other items.



Cooler Master's Laptop Lifter

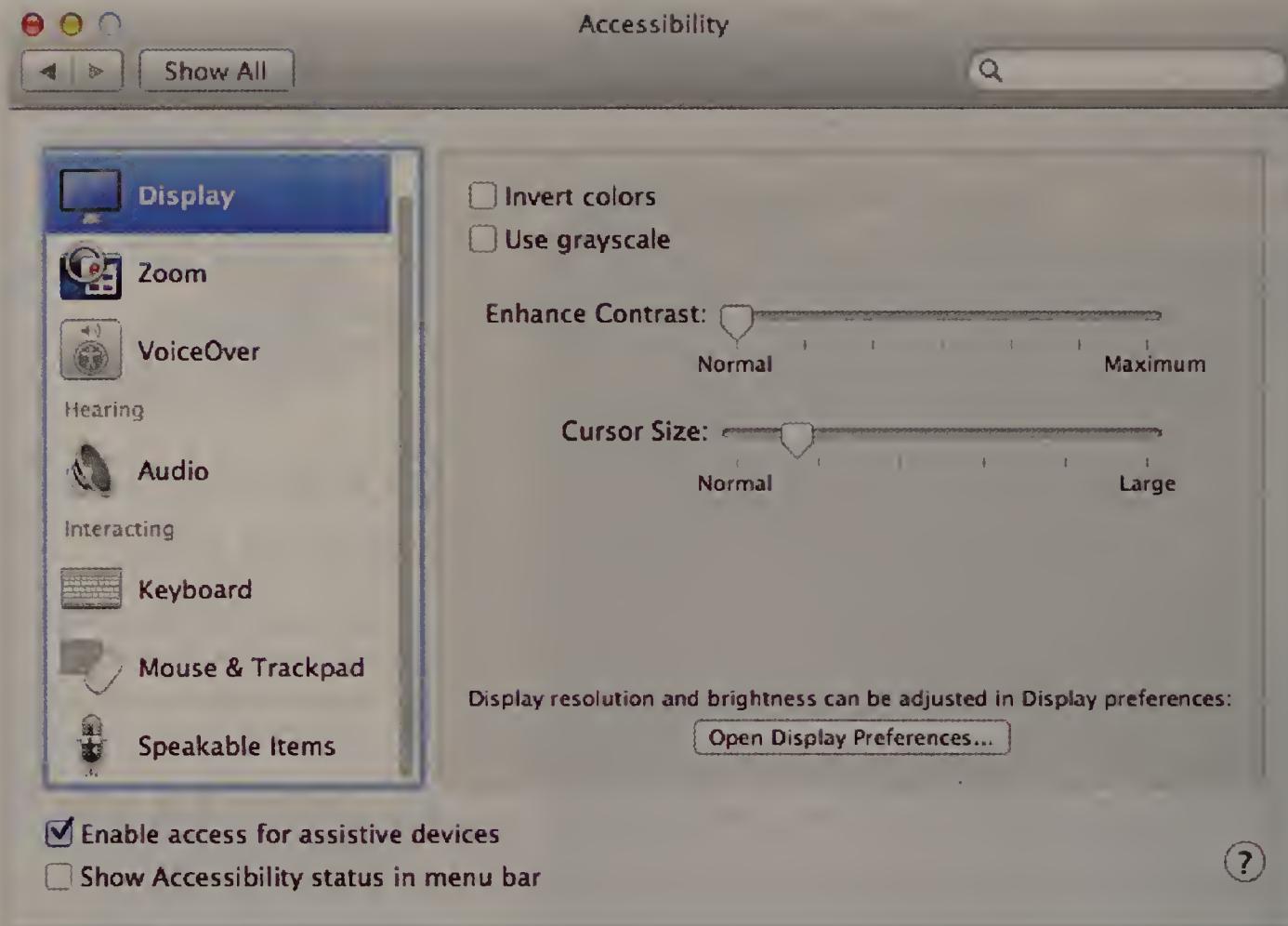
If you regularly use a laptop on a desk, a well-designed stand can raise the laptop so that the machine's display is in a better ergonomic position for an extended work session.

Made of aluminum, Cooler Master's \$70 Jas Pro (www.coolermaster-usa.com) laptop stand matches the aesthetics of Apple's MacBook Pro and feels solid. Though the stand's simple design offers only height adjustability, I was able to adjust the stand so that the top of my 15-inch MacBook Pro's screen lined up perfectly with the top of my 27-inch display.

If you need to turn your laptop to the left or right, you must turn the whole stand: Its rubber feet prevent the stand from slipping. The Jas Pro folds into a compact package that makes it easy to put in a laptop bag.

A bonus: Though Cooler Master advertises the Jas Pro specifically for use with the MacBook Pro, it also works nicely as an iPad stand—especially if you're using the device in conjunction with an external iPad keyboard (see page 44).

My only serious complaint about the Jas Pro is that the rubber lining on the stand's front cradle started to peel off after extensive use.—ROMAN LOYOLA



Supersize Your Cursor You can make your cursor larger, and easier to see, with these OS X Mountain Lion preferences.

Five Overlooked System Settings

Accessibility options can optimize everyone's productivity.

BY KIRK McELHEARN

If you enjoy finding new ways to tweak OS X, as I do, you have to be prepared to look for them in some rather out-of-the-way places. For example, the Accessibility pane of System Preferences, which houses a number of features to help users who have limited seeing, hearing, and mobility, contains some nifty adjustment options that all users should know about.

Here are five tricks for OS X 10.8 Mountain Lion that involve settings in the Accessibility pane. Note that you'll find the same features (with some differences in labeling) in OS X 10.7 Lion, under the Universal Access preferences pane.

1. Change the Cursor Size

• If you mirror your Mac's display to a large-screen TV or use a large (or especially high-resolution) monitor, you may discover that the cursor on your screen

appears too small. You can enlarge the cursor to any size from big to huge.

Go to Apple Menu → System Preferences, click Accessibility, and then click Display. Drag the Cursor Size slider from Normal (smallest) toward Large, settling on the size you want to use; the cursor changes size as you drag the slider.

This setting will change the size of the standard mouse pointer, as well as of

2. Zoom Everything, Easily

Have you ever visited a webpage whose text was illegibly tiny, or wanted to get a closer look at a diminutive image? You can activate keyboard shortcuts to zoom the entire display, or you can use a scroll gesture—a two-finger vertical drag on a trackpad, or a turn of a scrollwheel—to zoom in when you press a modifier key, such as the <Control> key.

The Accessibility pane of System Preferences contains some nifty adjustment options that all users should know about.

other cursors (the text input cursor, for example), though it won't work in all applications. It will even make the hand pointer, which appears when you hover over a link in Safari, much larger.

Go to Apple Menu → System Preferences, click Accessibility, and then click Zoom. Select the Smooth images option, so that you don't see the pixels in images as the images grow larger. You have a

couple of Zoom Style options to choose from: 'Fullscreen' zooms everything on the display, whereas 'Picture-in-picture' zooms the area around your cursor.

Click the *More Options* button to adjust other settings, such as the exact magnification of the maximum and zooms, and how the screen image moves in relation to your pointer.

Get Silent, Visual Alerts

3. You may have discovered and downloaded a cool alert tone, such as the ringtone from 24 or a favorite character's rejoinder from a sitcom you like. However, hearing these alerts might annoy your friends and coworkers. If you're working with headphones on, no one will hear them; but if not, it's a good idea to adopt a more discreet approach.

To change your machine's alert sound, go to *System Preferences* and click the *Sound* pane. Alternatively, you can use a setting in the Accessibility pane to silence your alert. Click *Audio*, and check *Flash the screen when an alert occurs*. Thereafter, instead of hearing a sound, you'll see a subtle flash whenever your Mac alerts you to something, such as when you receive a notification, or when OS X beeps. Click *Test screen flash* to see what the effect looks like. That minor adjustment might be just the thing to promote harmony in a busy office.



Sticky Shortcuts

Set modifier keys to be "sticky," so you can press them one at a time. Then display the active keys on screen.

4. Make Modifier Keys Sticky

Do you find it difficult to press $\text{⌘}-\text{Option}-\text{Shift}-\text{W}$, the Safari keyboard shortcut to close all windows? Well, you're not the only one. Pressing more than one modifier key (the keys you use in shortcuts together with letters or numbers, namely ⌘ , Option , Control , and Shift) can be tough for a lot of people.

Click *Keyboard* in the Accessibility System Preferences pane, and select *Enable Sticky Keys*. If you activate this option, you can press the ⌘ key once to activate it, and it stays "pressed" until you press it again. This arrangement makes it easy to press several modifier keys, as they will all add up. Click the *Options* button if you want to set the keys to appear at the top right of your display so that you know when they're pressed.

5. Mouse With Your Number Pad

Sometimes you might want to move the cursor to a particular location before clicking. Or you might want to navigate your Mac from the keyboard without

having to employ a trackpad or mouse.

Click *Mouse & Trackpad* in the Accessibility System Preferences pane. Here you can turn on *Mouse Keys*, an option that lets you move your pointer by pressing keys on your keyboard. This technique works with the number pad on a full-size keyboard, or with the 7-8-9, U-I-O, and J-K-L keys. With *Mouse Keys* enabled, you can move your mouse in any of eight directions, in tiny steps, simply by pressing the outside keys in that square, and you can click the mouse by pressing the 5 or I key.

Click the *Options* button to adjust some settings for this feature, such as the ability to turn it on by pressing your keyboard's Option key five times. You might find this setup useful, for instance, if you are working on a detailed Photoshop file and need to select something with precision.

With these five system tweaks, you'll find new ways to work with your Mac. Try them out and see if they make your computing life easier.

OGIO Renegade RSS 17

The \$150 Renegade RSS 17 from OGIO (ogio.com) is a tough and durable bag for work and sport. Constructed from rugged polyester and measuring 19.5 inches high by 14 inches wide by 10 inches deep, it has a carrying capacity of 1800 cubic inches and weighs a hefty 3.5 pounds. The bag fits 15-inch and smaller laptops and provides four compartments: a sizable main space, separate areas for your laptop and tablet, and an organizer panel filled with pouches.

The Renegade RSS 17's laptop compartment is padded with quilted red material—all of the bag's safe, soft areas for gadgets are marked in red. The laptop compartment also includes a firm, padded structure at its bottom to ensure that your computer will never come into contact with the ground. One bonus is the Tech Vault pocket at the bag's top: You can adjust its soft liner to improve protection of smartphones, cameras, or sunglasses. The Renegade easily accommodated all of my gadgets, electronics, and work items, but the flip side of its generous capacity was that I couldn't fit it under an airline seat. Still, despite its size, I was impressed by how comfortable it was to wear. If you need to carry a lot of gear, the Renegade is up to the challenge.—AMBER BOUMAN



Dictionary Tricks You Can't Live Without

You've ditched your paper dictionary; now learn how to use OS X's built-in one.

BY SCHOLLE SAWYER McFARLAND

Whether you need to know what a word means or just how to spell it, the days of leafing through hefty paper dictionaries are gone. But few Mac users know how to make the most of OS X's built-in Dictionary app. Here are some tricks for doing just that.

Use pop-up definitions: Systemwide pop-up definitions are a useful but chronically underused OS X feature. In most Mac applications—including Safari, Mail, Pages,TextEdit, and Twitter, among others—just position your cursor over the word you

right-click). A contextual menu opens. Select *Look Up in Dictionary* (or *Look Up*), and the definition appears.

Use Spotlight: Another quick way to look up a word is by using the Spotlight search menu. First press ⌘-Space to activate it, and then type in the word you need defined. One of your results will be 'Look Up' next to the Dictionary icon. You don't have to select this item and press <Return>. Instead, simply hover your cursor over the entry, and a pop-up menu will appear with the full definition. If you don't want to reach for your mouse, press

Pop-up Definitions Hover your cursor over a word and press ⌘-Control-D to see its definition. If the word isn't in the dictionary, you'll see any relevant Wikipedia entry.

To use this feature, first open *System Preferences*, click *Dictation & Speech*, click the *Text to Speech* tab, and choose a voice. Then, to make Dictionary talk, select a word and Control-click (or right-click) it. From the contextual menu, choose *Speech → Start Speaking*.

If the word isn't split into syllables (say, down below in its Thesaurus entry), you don't even have to select it. Just point to it with your cursor and Control-click.

Change your sources: Dictionary comes with a bunch of built-in reference sources. Select *Dictionary → Preferences* to see the list. Here you can determine which sources will show up when you search, and what order they'll show up in. For instance, you could get rid of Wikipedia, add a Spanish dictionary, or switch out the American English dictionary for a British English one.

Note that you have to be connected to the Internet to access Wikipedia. And what is the Apple Dictionary, you may ask? It includes a glossary of Apple terms—quite helpful on those occasions when you're not interested in the type of apple you can eat.



Few Mac users know how to make the most of OS X's built-in Dictionary app. Here are some tricks for doing just that.

want to define and press ⌘-Control-D. A pop-up window appears containing the word's definition, synonyms, and any relevant Wikipedia entry.

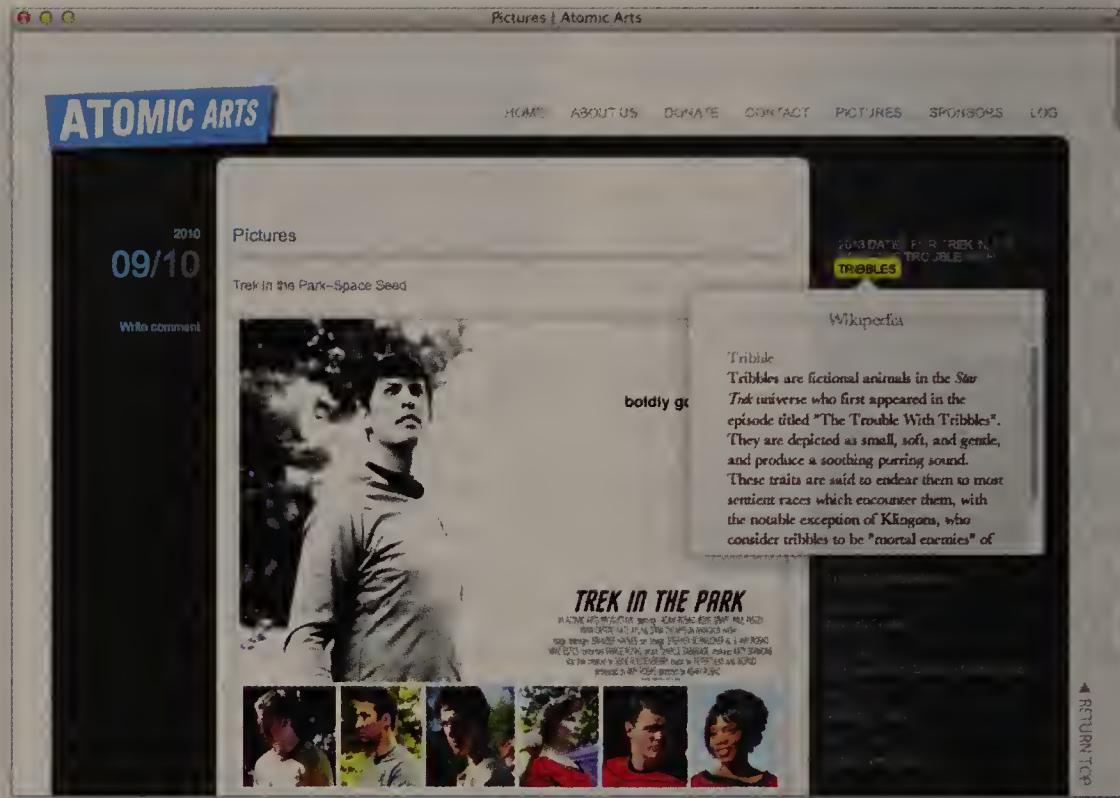
Click the header for *Dictionary*, *Thesaurus*, *Apple*, or *Wikipedia* to open Dictionary to the relevant page.

Use contextual menus: Say you've forgotten the ⌘-Control-D shortcut already. Are you out of luck? Of course not. In most applications, you can instead select a word and Control-click (or

⌘-L to jump immediately to the definition.

For more options—like the ability to look for synonyms—select the *Dictionary* entry (or press ⌘-D), and the Dictionary application will open to your word.

Make Dictionary talk: It may be that in the distant past your elementary school teachers taught you how to decipher the pronunciation symbols that the dictionary gives for each defined word, but...perhaps not. Did you know that you can arrange for Dictionary to pronounce words for you?



UDDERLY FANTASTIC WEB HOSTING

only
\$56/yr.

NO BULL MONEY-BACK
GUARANTEE

Creating a website is easy with FatCow.



Fast, Secure & Reliable

Our robust hosting platform is the perfect home for your business or personal website.



Build a Site in Just 10 Minutes

Create a website with just a few clicks, using a variety of dynamic themes and templates.



Free Advertising Credits

Market your great new site with ad credits from Google™, Yahoo!™, and Facebook™.



Free Domain Name

Signing up means you get your very own domain name for FREE with your hosting account! It's moovelous!



It's Easy Being Green

Web hosting is extremely energy intensive. At FatCow, we power our server farm with 100% wind energy.



Friendly Moo Crew Support

We're here to help. Our friendly Moo Crew is available 24x7 via phone, email and online chat.



FatCow™

866-544-9343

Visit us at fatcow.com/macworld

Reviews

Hardware and Software for All Your Business Needs



Hardware

Belkin Thunderbolt Express Dock

\$300; Belkin; belkin.com

If you own a Thunderbolt-equipped Mac portable and are tired of plugging and unplugging peripherals each time you arrive at and leave the office, consider the Belkin Thunderbolt Express Dock.

The dock comes with two Thunderbolt ports (the second of which lets you daisy-chain up to five Thunderbolt devices to it), three USB 3.0 ports, a FireWire 800 port, a gigabit ethernet port, and audio-in and -out ports.

I connected gigabit ethernet, a FireWire 800 drive, a USB thumbdrive, and headphones to the dock, simultaneously. I also connected a LaCie Little Big Disk Thunderbolt Series hard drive to an Apple LED Cinema Display, using a Mini DisplayPort connector attached to the second Thunderbolt port.

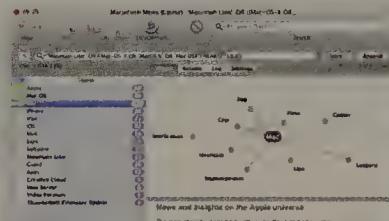
When I plugged a Thunderbolt cable from a MacBook Air into the Thunderbolt Express Dock, all the drives mounted on the desktop automatically, the keyboard and mouse were recognized, the Cinema Display turned on with the proper resolution, and I was able to connect to the network through the gigabit

ethernet connection. At quitting time, you unmount the drives, disconnect the Thunderbolt cable connecting the dock to the Mac, and unplug the power cable—and you're ready to hit the road.

I linked a Dell DVI display to the Thunderbolt Express Dock with Apple's Mini DisplayPort to Dual-Link DVI Adapter, too.

The Thunderbolt Express Dock is plug and play. The dock requires OS X 10.8.3 or later and—of course—a Thunderbolt-equipped Mac.

Belkin's dock is a bit pricey, but its many and varied connections can help you realize the potential of Intel's fast and flexible Thunderbolt technology.—JAMES GALBRAITH



Software

DevonAgent Pro 3.5

\$50; Devon Technologies; devontechnologies.com

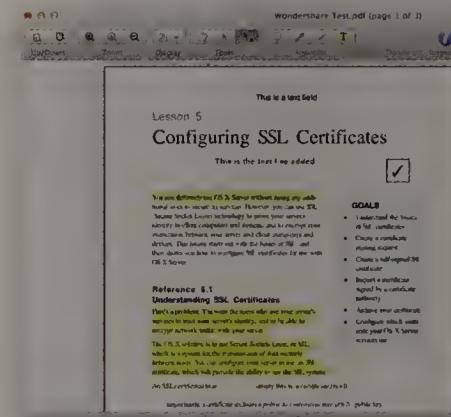
The main function of DevonAgent Pro is to find online information by collecting data from the major search engines and from specialized sources such as Lexis Web (legal data), MedlinePlus (medical data), Scirus (scientific data), USA.gov (government data), the U.S. Patent Office, online libraries, and Facebook and Twitter.

To start a search you select or create a Search Set, which tells DevonAgent Pro where to search and what to look for. The Search Set can include Boolean operators (AND, OR, XOR, NOT), proximity terms (BEFORE, AFTER, NEAR), and wildcards; it can also specify whether and how deeply to follow links, whether to search inside documents such as PDF and Microsoft Word, and how to present the results. DevonAgent Pro filters the search results according to your preferences, ranks the results by relevance, and briefly summarizes each one.

A search may take anywhere from seconds to hours, depending on how thorough you want it to be, but it can run unattended on a schedule. You can ask DevonAgent Pro to cache all downloaded pages, and you can archive any search results within DevonAgent Pro or in DevonThink Pro, the developer's document management app.

One major improvement is the all-new See Also capability: Select any search result, click the Top Hat button, and DevonAgent Pro lists similar items in the search results, on the Web, and even in your DevonThink database, often revealing unexpected connections.

For detailed Web research involving data that conventional search engines can't reach, DevonAgent Pro can cut through clutter and help you make sense of complex information.—JOE KISSELL



PDF Editor Pro 3

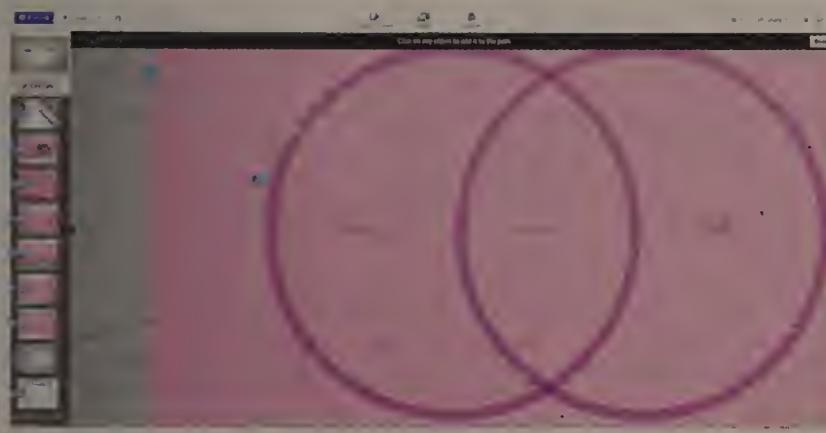
\$100; Wondershare; wondershare.com

Though it offers some functions unavailable in Apple's built-in Preview app, PDF Editor Pro 3 lacks many basic features that make Preview so appealing as a PDF editing and annotating tool.

Inline text editing in PDF Editor Pro is fairly intuitive. Select the Touchup tool in the PDF Editor Pro toolbar, and double-click the text you want to edit to make changes.

The program's form recognition feature automatically detects and highlights fields in a PDF file into which you can enter data. PDF Editor Pro is the only software I've used that makes it obvious a document contains editable form fields as soon as you open it.

PDF Editor Pro is appealing because it offers OCR and text-editing options unavailable in Apple's Preview. But it's harder to use than Preview is, and its OCR capabilities aren't as good as those in other apps. It's not a bad PDF-editing application, but you may be better off looking elsewhere.—JEFFERY BATTERSBY



Prezi

•••; free (Public), \$59/year (Enjoy), \$159/year (Pro); [Prezi](#); [prezi.com](#)

With traditional slide-based presentations, no matter how fancy (or austere) each slide is, it remains a slide. Prezi tries to change this by turning your presentation into an open canvas on which you can draw your ideas spatially, and then presenting them by zooming and panning all over the canvas. Used well, the end result is cinematic and engaging in a way traditional presentations rarely are.

To get you started, Prezi shows a list of templates that you could use. You get an ample number of templates, but you have no way to preview what a template looks like except by starting a project with it. If you embark on a project with a template and discover that it doesn't work for you after all, you can switch over to a different template midway through, but you will have to adjust things to work in the new template.

Prezi's canvas-based design lets you create the presentation where you'll be showing it. If you want to zoom and pan somewhere when presenting, you have to zoom and pan while editing, so that you instantly get a feel for what your viewers will

see. Instead of "slides," Prezi uses "path points": saved states for your presentation, where the viewport shows a portion of the canvas.

As you present, you move through a progression of these path points, with Prezi automatically animating things as needed. If a given path point covers a small area of the canvas, Prezi will smoothly zoom in to it, revealing new details at the magnified size. If the next path point is all the way across the canvas, Prezi will smoothly pan there.

I found Prezi easy and intuitive to work with, without much of a learning curve. When I had to insert an image, I could search Google Images right from within Prezi, and I could tell it to look only for images that are okay to use commercially. You can also embed YouTube videos, as well as content from your local computer. A recent Prezi feature is the addition of sound: You can now upload audio clips to go along with your presentation, or even narrate the entire presentation so that it can stand on its own.

Internet connections have a tendency to flake out at just the wrong moment, especially in a busy convention center. To avoid potentially embarrassing situations, Prezi lets you download your presenta-

tion for offline viewing. The presentation is packaged as a .zip archive, complete with a small executable player.

Prezi is available in three different forms and payment plans, starting with a free Public plan. I tested the Enjoy plan. The Pro plan is the only one that lets you work offline.

A big part of Prezi's appeal is that it's still unusual. In all likelihood, your audience is accustomed to slide-based presentations, so Prezi's cinematic nature will probably wow them. In time, if Prezi or similar products become commonplace, it may lose its visual edge. But until that happens, Prezi is an outstanding way to create engaging, surprising, and beautiful presentations.

—EREZ ZUKERMAN

holds the charts) and the data viewer (for entering/editing data), and the inspector permits you to customize every element of your charts. The chart viewer window shows real-time changes as you make edits in the data viewer window. You can change text (but not values) directly on the charts, if you prefer. Creating a chart is as simple as adding rows and columns in the data viewer, entering your data, and choosing a chart type.

Chartsmith's data viewer window makes it easy to switch between various chart types, add and delete rows, and reorder columns. A data filler panel lets you speedily populate days, weeks, months, or any set of values you wish. The chart viewer window includes tools for annotating charts with text, geometric shapes, and speech bubbles.

You can create and save as many charts in the chart viewer window as you wish, and you can export completed charts in a number of image formats. You can even save customized charts as reusable templates.

Chartsmith supports 12 highly customizable chart types, but it doesn't include some esoteric types, such as 3D surface, contour, doughnut, and radar charts.

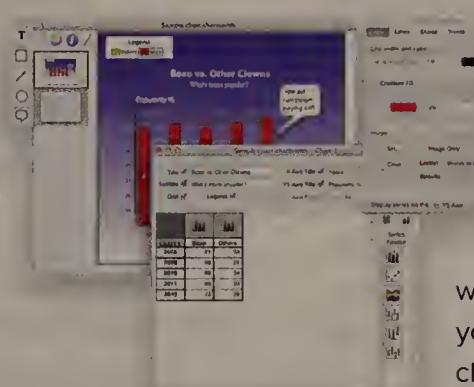
The interface works, but is complex and somewhat old-fashioned. Many features are hidden (using modifier keys to drag requires reading for discovery, for instance), and the multiple windows require a lot of mousing around to select the proper location in the proper window.—ROB GRIFFITHS

Chartsmith 1.6

•••; \$129; [Blacksmith](#); [blacksmith.com](#)

Launching Chartsmith—a Mac app dedicated to making charts—is a bit like stepping into a time machine. Its interface uses a two-window setup (plus an inspector window), a drawer for chart notes, and an odd toolbar-like thing that floats next to the chart window, yet is attached when you move the chart window around.

Once I learned the interface, Chartsmith was relatively easy to use. The two windows contain the chart viewer (which



Playlist

Everything You Need to Know About iPods, iTunes, and Mac-Based Entertainment

Ask the iTunes Guy

All about smart playlists, syncing, and working with iTunes Match.

BY KIRK McELHEARN

Q&A

This month, I discuss syncing music to multiple iPods when your library is larger than the space on one device, making smart playlists, and matching tunes ripped from vinyl.

Q: I'd like to make a smart playlist that picks songs of a specific rating from a few genres, but that excludes certain artists who have their own playlists. Is there an easy way to do this?

A: You can design smart playlists that are extremely complex, incorporating conditions and nested conditions. I've made a smart playlist that matches what you want (see "Nested Conditions"). Let's take a look.



You can design smart playlists that are extremely complex, incorporating conditions and nested conditions.

The playlist contains the condition *Match all of the following rules*, so it will include only songs that match all rules. The first section specifies three genres from which you want to pick songs; it uses the *Any* condition, so it can choose songs from any of the genres. The next section specifies a rating to whittle down the first selection. Finally, the third section specifies two artists and uses the *All* condition. You could do the same thing with individual smart playlists, but it's just as easy to put all of these conditions into a single playlist.

Q: My jazz collection is bigger than a single 160GB iPod classic can hold. How can I easily set up two 160GB iPods to hold only jazz music—with, for example, artists whose names start with A to L on one and M to Z on another?

A: The easiest way to do this is to set up each iPod to sync a single playlist, and to create two standard (not smart) playlists by dragging all the music from the first group of artists to one playlist, and all the music of the second group to the other.

However, you probably want to be able to sync future additions to your library as well—and that's where things get complicated. You can't easily create a smart playlist in which the beginning of artists' names ranges from A to L, for example.

I can think of a couple of ways to add new music to these playlists. The first is to use the Recently Added playlist, which iTunes creates by default. Using this playlist, you can find the tracks you've added lately and manually add them to your two jazz playlists according to the artists' names.

Another method, which is partly automated, is to use the Comments field in your tracks' tags. For example, you can add the comment **Jazz1** for files that go

The screenshot shows the "Smart Playlists" editor in iTunes. The title of the playlist is "5-star Alt/Rock". The conditions are defined as follows:

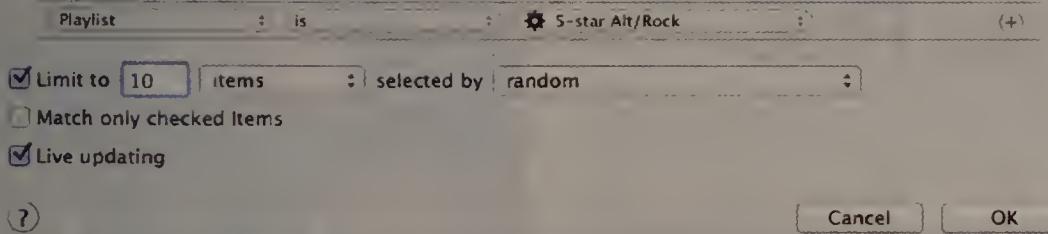
- Any**:
 - of the following are true
 - Genre is Alternative
 - Genre is Rock
 - Genre is New Wave
- All**:
 - of the following are true
 - Rating is ★★★★★
- All**:
 - of the following are true
 - Artist is not The Rolling Stones
 - Artist is not U2

At the bottom, there are checkboxes for "Limit to 25 items", "Match only checked items", and "Live updating". There are also "Cancel" and "OK" buttons.

Nested Conditions This smart playlist uses a number of conditions and nested conditions in order to create a list that more closely matches the kinds of songs you want to hear.

Smart Playlist

Match the following rule:



in the 'A to L' playlist, and **Jazz2** for files destined for the 'M to Z' playlist. You can do this for your existing music, and also insert the comment when you add new music to your iTunes library.

Then you can create a smart playlist with the condition *Comments Contain Jazz1* for the first playlist, and *Comments Contain Jazz2* for the second. Sync just the first or second smart playlist to each iPod, and whenever you add songs (and you have room on the respective music players), the tunes will sync automatically.

Q: I have three playlists: 'Rock from 1980 to 2000', 'Pop from 2000 to 2010', and 'Jazz from 1995 to 2005'. I want to make a smart playlist containing a subset of songs from all three, as follows: 10 percent of playlist 1, 25 percent of playlist 2, and all of playlist 3. Is there any way to do this?

A: Yes, but you'll need to create several smart playlists. Start with playlist 1. If it contains 100 songs, and you want 10 percent of them, you'll need ten songs. Make a smart playlist where the condition is *Playlist is [playlist 1]*, and limit it to ten items (see "Playlist Smarts").

Do the same for playlist 2: Create a smart playlist with the number of items limited to 25 percent of its contents.

Playlist 3 is your existing jazz playlist.

To group these together, create another smart playlist with the following conditions (inserting the actual name of each playlist):

- > *Match any of the following rules*
- > *Playlist is [playlist 1]*
- > *Playlist is [playlist 2]*
- > *Playlist is [playlist 3]*

This will combine into one playlist all the songs you've put in the first two smart playlists, plus all the songs in the third

playlist. You can refine this playlist by, for example, adding a condition that ensures that recently played songs are excluded: *Last Played is not in the last 2 weeks*.

Q: I've set up iTunes to sync my iPhone and iPad wirelessly. I find that if I open iTunes with my iPhone or iPad already on, the device does not appear in iTunes. I then have to reboot the iPhone or iPad for it to appear. Is there a simpler solution?

A: I find Wi-Fi syncing to be unreliable. Not only do devices occasionally disappear from iTunes, but they also don't seem to sync regularly (or often, even when I try to force a sync from iTunes).

One way to get the device to appear in iTunes is to connect it to your computer via the 30-pin or Lightning cable that came with it. But another is to launch a sync from the device. On your iOS device, go to *Settings* → *General* → *iTunes Wi-Fi Sync* and tap *Sync Now*. This action almost always adds the device back to iTunes.

Playlist Smarts A smart playlist can limit the number of songs it contains.

Q: I'm converting a bunch of vinyl LPs and 45s in order to add them to my iTunes library. But I can't get any of these tracks to match with iTunes Match, even though the tracks are in the iTunes Store. I was hoping to match the music and stream it to my iPhone and iPad without the pops and clicks of vinyl. (I don't have any of the software that is supposed to clean that up.) Do you have any suggestions on how to "force" iTunes Match to match these tracks instead of uploading them?

A: The first thing to check is the bit rate you're using to digitize the music. iTunes Match won't accept anything under 96 kilobits per second. If you're using a higher bit rate, then I don't know what's happening; even with pops and clicks, the music should get matched. You might want to try ensuring that the volume is sufficient when you digitize the tracks; turntables output low volumes, and if you're not adjusting the volume, this might trip up iTunes Match.

Senior Contributor **Kirk McElhearn** (www.mcelhearn.com) is the author of *Take Control of iTunes 10: The FAQ, second edition* (TidBITS Publishing, 2012). Have questions? Send them to itunesguy@mocworld.com.

iPods: Current Lineup

PRODUCT	SPECS	RATING	PRICE ¹	DISPLAY	MORE INFO
iPod Classic	160GB	★★★★★	\$249	2.5-inch color	go.macworld.com/classic2
iPod Touch 5th Generation	16GB	★★★★★	\$229	4-inch color (Retina)	go.macworld.com/touch516
	32GB	★★★★★	\$299	4-inch color (Retina)	go.macworld.com/touch5
	64GB	★★★★★	\$399	4-inch color (Retina)	go.macworld.com/touch5
iPod Nano	16GB	★★★★★	\$149	2.5-inch color	go.macworld.com/nano7
iPod Shuffle	2GB	★★★★★	\$49	None	go.macworld.com/shuffle4

¹All prices are Apple's prices.

Cult-Favorite Films Now Streaming on Hulu Plus

BY JEFFREY M. ANDERSON

Hulu Plus (www.hulu.com/plus), the paid online streaming service, charges \$8 a month for access to TV shows and a decent collection of movies that range from highbrow to lowbrow—including many titles from the prestigious Criterion Collection (go.macworld.com/criterion). Here are four cult favorites on offer. (Note that due to Hulu's contracts with various studios, videos occasionally expire.)

Primer

Writer and director Shane Carruth made an audacious debut with the brainy, 77-minute time-travel movie *Primer*

(2004). In the film, two young scientists accidentally discover time travel while they're working on a new refrigeration system (Carruth himself plays one of the scientists). They spend their days moving back and forth through time, gambling on the stock market and trying not to run into their doppelgangers or to cause any ripples in the space-time continuum. But things begin to get more than a little confusing, and the time travel starts to produce certain side effects. Despite the movie's copious dialogue and lack of special effects, *Primer* has a dreamy, fluid feel that draws the viewer in.



Hunger IRA activist Bobby Sands (Michael Fassbender) in Northern Ireland's Maze prison.

Hunger

Though it's not a genre movie, Steve McQueen's *Hunger* (2008) is an equally intelligent and mesmerizing independent film. Instead of time travel, its subject is the real-life Irish Republican Army activist Bobby Sands (Michael Fassbender). In 1981, the imprisoned Sands led a hunger strike to protest the brutal conditions in Northern Ireland's notorious Maze

Apotop®

Wi-Copy

DW21



Portable Personal Cloud Storage

- ⊕ **Power Bank**
- ⊕ **Wi-Fi Router**



Macworld PROFESSIONAL DISCOUNT

Plus, a free downloadable Power Guides Collection when you subscribe.

Annual Cover Price	You Save	You Pay Only
\$83.88	\$61.91	► \$21.97

YES! Please send me *Macworld* at the discounted rate checked below and the 5 Power Guides.

2 years (24 issues) for \$34.97 1 year (12 issues) for \$21.97
SAVE 79% off the cover price! SAVE 74% off the cover price!



Savings based on annual U.S. newsstand rate of \$83.88. Offer valid in U.S. only. Foreign orders must be prepaid in U.S. funds with additional postage. Add \$10 per year for Canada; and \$20 per year for foreign air delivery. Canadian GST or HST included where applicable. For faster service and digital options, go to: www.macworld.com/subscribe

Name _____ (please print)

Address _____

City/State/Zip _____

Email (Required to receive instructions to download Power Guides and iPad access.)

Includes access to Macworld Digital Magazine Enhanced iPad Edition

Payment Enclosed Bill me later

J38N22

For faster service and digital options,
go to: www.macworld.com/subscribe



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO 112 BOONE IA

POSTAGE WILL BE PAID BY ADDRESSEE

Macworld

SUBSCRIPTION DEPARTMENT
PO BOX 37778
BOONE IA 50037-2778



prison. McQueen stages much of the movie without dialogue, with the striking exception of a powerful 20-minute sequence in which Sands reveals his plan to Father Moran (Liam Cunningham). *Hunger* is a powerful film that transcends the often heavy-handed Hollywood approach to biographies.

Darling

The British hit *Darling* (1965) features a flawed female protagonist and won its star, Julie Christie, an Oscar for best actress. She plays Diana, a small-time model in swinging London who leaves her husband to embark on a fling with a journalist (Dirk Bogarde). From there, she moves on to a powerful ad executive (Laurence Harvey) and eventually a prince. By the end of her adventures, she comes to the realization that all the luxury in the world doesn't provide happiness. Screenwriter Frederic Raphael (who won an Oscar for his

work) and director John Schlesinger create a beautiful black-and-white world that must have seemed glamorous decades ago, but now seems strangely empty; it's a fascinating relic of its time. The movie won a third Oscar for costume design and was nominated for best picture and best director.

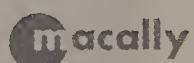
Marriage Italian Style

Over the course of her career, Sophia Loren has been a larger-than-life international female star. She earned an Oscar nomination for her ferocious performance

as Filumena Marturano in *Marriage Italian Style* (1964). Pitched as a comedy, it's more of a soapy drama that plays out over the course of several decades. Loren's character is a prostitute who becomes the servant of a gentleman, Domenico Soriano (Marcello Mastroianni). After her years of dedicated service, he decides to marry a younger woman, at which point Filumena takes drastic steps to get him to marry her instead. Director Vittorio De Sica was one of the founders of Italian Neo-Realism, but in later years he made big-budget entertainments such as this, working with Loren many times. One of their best films, *Yesterday, Today and Tomorrow* (1963), is also on Hulu Plus.

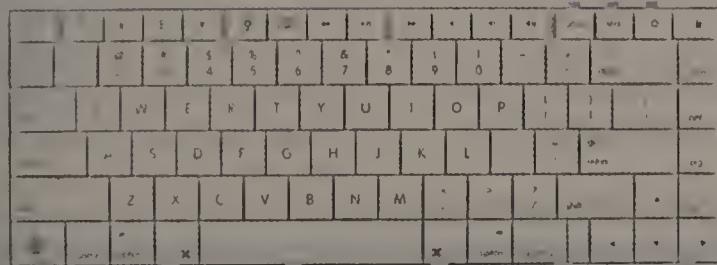
Marriage Italian Style

Sophia Loren was nominated for an Oscar.



Full Size Wired Keyboard for iPad with Lightning Connector

Macally's new KeyLT is perfect for students because it features sturdy scissor-key switches for a sensitive and responsive touch, many ISO device specific shortcut keys and includes an iPad stand.



iKEYLT
For iPad 4



iKEY30
For iPad 1,2,3



iPad STAND INCLUDED



FULL SIZE KEY CAPS

For use for
iPod iPhone iPad

All trademarks or registered trademarks are property of their respective owners. Apple, the Apple logo, iPad, iPhone, and iPod touch are trademarks of Apple Inc. registered in the U.S. and other countries. App Store is a service mark of Apple Inc. Google Play is a trademark of Google Inc.

ROUNDUP: Four On-Ear Headphones Worth Hearing

BY R. MATTHEW WARD

A new category of headphones has emerged in the past few years: comfortable, high-quality, portable on-ear headphones that also look great. I compare four such models, each of which has a three-button inline remote for controlling music, a microphone module for taking calls, a generous warranty, and replaceable cables (the cable is the most frequent point of failure).

Bowers & Wilkins P3

B&W's P3 headset retains the overall look of the company's P5 headset—the model that gave birth to this category—with similar chrome and brushed-metal highlights. But the \$200 P3 trades some of the P5's luxury for a lower price tag. The headset features cloth and rubberized plastic instead of the P5's leather, as well as smaller earpieces and internal speakers. It's no surprise, then, that the P3's sound quality can't match that of its higher-end

sibling. The P3's excessive, sloppy bass overwhelms the midrange frequencies. I found listening to the P3 for long periods of time to be fatiguing.



RHA SA950i

RHA produces high-quality, attractive headphones at low prices. Indeed, the SA950i, with its chrome accents, looks great given its price.

The headband felt comfortable on my large head, but the headset seemed the least sturdy of the bunch. And the less-snug fit means that it also offers less noise isolation than the other headsets.

The SA950i's sound has a high-end emphasis that makes cymbals sparkle. Bass quality is good overall, and neither the highs nor the lows overwhelm the midrange. At \$60, the SA950i is a great value.

Skullcandy Navigator

Skullcandy's \$100 Navigator features sunglasses-inspired earpieces (in a variety of colors) and folds up for easy carrying.

The headphones fit a bit too tightly on my admittedly big

head, but the trade-off is that they block more external noise. The Navigator sounded good with sparse, acoustic music, but the headphones lost me when I listened to music with more bass. Though the high frequencies and midrange beat the SA950i's, they're overwhelmed by too much bass. At \$40 less, the RHA SA950i is the better bet.



V-Moda Crossfade M-80

V-Moda continues its tradition of making bass-heavy, in-ear headphones with the Crossfade M-80, a \$200 portable model targeted at audiophiles. The M-80 has a remarkably solid



metal, plastic, and cloth construction, with an edgy, industrial look. You can customize each earpiece with interchangeable "shield" faceplates.

These headphones were the most comfortable in the group—but even given the looser fit, the M-80 offered impressive sound isolation. The bass is nice and tight, and doesn't interfere with the mid- and high ranges. The M-80 is the best set of sealed, on-ear headphones I've tried.

Bottom Line

I found two hits and two misses. The RHA SA950i looks and sounds great for \$60. The V-Moda M-80 sounds fantastic and is impressively built. The Skullcandy Navigator also looks terrific, but only committed bass-heads should choose it over the SA950i. And though the B&W P3 looks very nice, its bass is also too heavy.

On-Ear Headphones At-a-Glance

PRODUCT	RATING	PRICE	URL
P3 Bowers & Wilkins	3 1/2 stars	\$200	bowers-wilkins.com
SA950i RHA	4 stars	\$60	rha-audio.com
Navigator Skullcandy	3 1/2 stars	\$100	skullcandy.com
Crossfade M-80 V-Moda	4 stars	\$200	v-modam.com

Hot Stuff

What We're Raving About This Month

Cambridge Audio Minx Air

This famous British audio company's Minx Air is a wireless music-streaming system that comes in two flavors: the \$449 Minx 100 and the \$599 Minx 200. Both support Apple's AirPlay technology and Bluetooth for streaming music, letting you crank your tunes from pretty much any device without having to plug in. Both also feature Internet-radio presets, which make it easy to listen to your favorite station with one button press (www.cambridgeaudio.com).—JOEL MATHIS

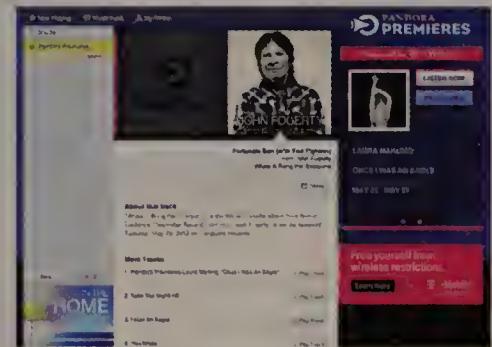


Samson Expedition Express

The \$200 Expedition Express offers a nifty twist on the classic public-address system: You can stream music and other audio to it via Bluetooth from your iOS device. The system weighs 10 pounds and produces great sound for up to 8 hours between charges. It also features a three-channel mixer (www.samsontech.com).—JOEL MATHIS

Pandora Premieres

Pandora has become an incredibly popular streaming service, because it lets you listen to the music you like for free (never mind those pesky ads) on stations based on artist, genre, or composer. But unlike with subscription music services such as Spotify, you can't choose to listen to complete albums. Happily, the new Pandora Premieres station lets you listen to a limited selection of albums even before they're released—up to one week ahead of their scheduled U.S. launch dates, to be exact (www.pandora.com).—JONATHAN SEFF



Klipsch KMC 3 Wireless Music System

The \$400 KMC 3 Wireless Music System offers big 2.1-channel sound with a built-in subwoofer, dual 2-inch drivers, and 130 watts of power. Thanks to Bluetooth support and AC or battery power, you can stream music at home or be completely wireless on the go. The included remote lets you control playback, volume, and streaming music sources, and a USB port lets you charge your smartphone or other device when you play its tunes (www.klipsch.com).—JOEL MATHIS



Create

Using the Web for Video, Graphics, Publishing, Photography, and Other Creative Pursuits

Tips and Tricks for iPhoto for iOS

Use the more obscure capabilities of iPhoto's mobile version to make your pictures pop.

BY CHRIS McVEIGH

Although iPhoto for iOS isn't quite as robust as its OS X counterpart, it's a capable image editor—and it can do a few cool tricks you simply can't replicate on your Mac.

Straighten Your Photos

iPhoto for iOS allows you to straighten your photos in a few smart ways. The first is by auto-detecting a strong horizon line. Open iPhoto, choose a photo, and then tap *Edit*. Now tap the *Crop & Straighten* icon in the bottom left. If the photo displays a white line across it with icons at either end, that means the software has detected a horizon line. To proceed with straightening, simply tap the arrow icon at the right.

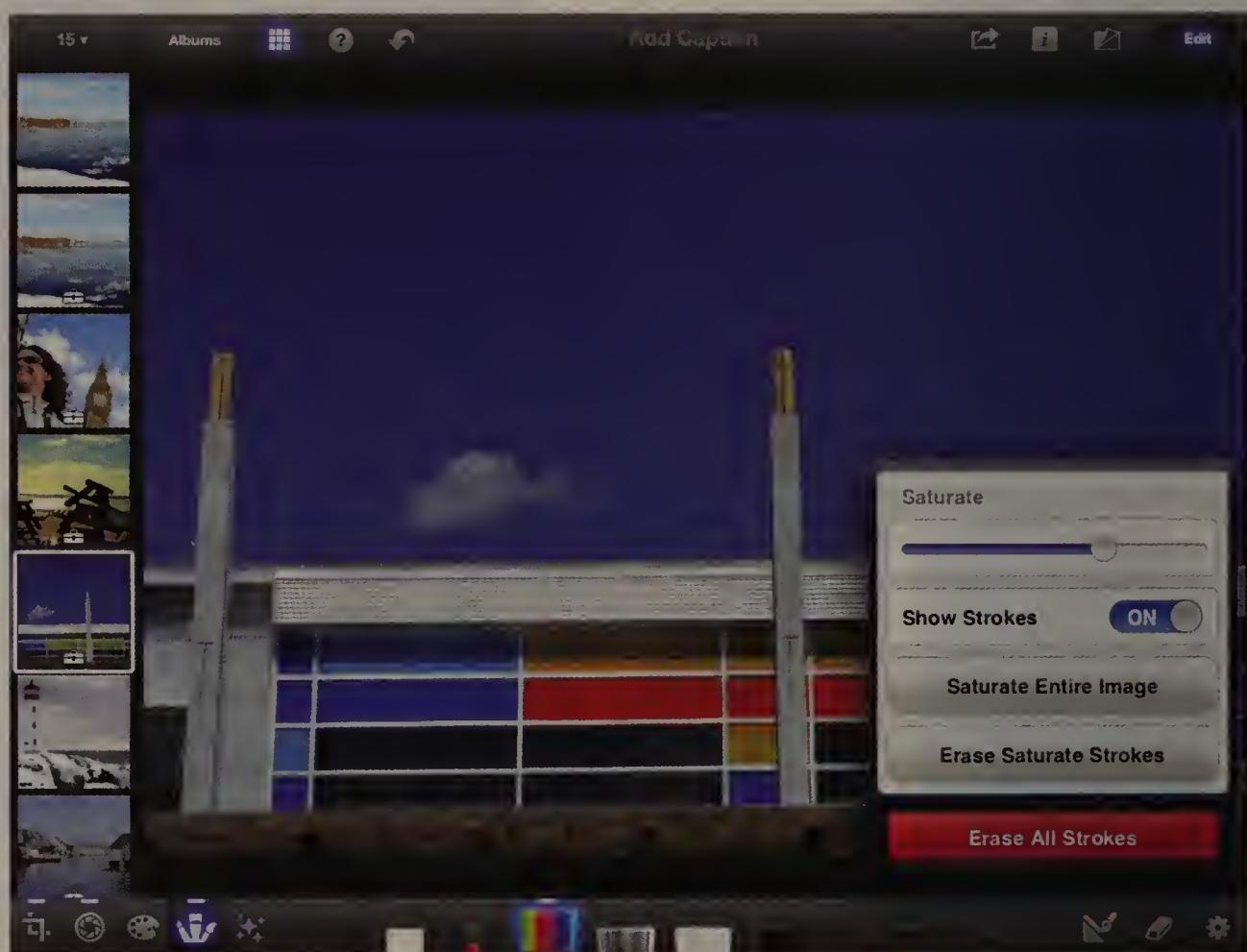
Unfortunately, iPhoto can't always detect a horizon line, and that means you'll have to make the adjustment yourself. The *Crop & Straighten* mode places a dial under your photo, and you can straighten your photo simply by dragging the dial left or right. A grid overlaid on your photo as you turn the dial allows you to straighten with visual cues in your photo.

What happens when your photo has no visual cues, but still feels off-kilter? iPhoto for iOS has one more strategy to assist you. Choose a photo that you'd like to straighten, and hold the iPad or iPhone up in front of you. Now tap the dial. iPhoto then calls on the gyroscope in your device

to help you straighten the image. Simply tilt the iPad or iPhone to the left and right; as you do, you'll notice that the photo remains upright. It's helpful to tilt your head as you tilt the device so that you have a better sense of the final crop. Once you're happy with its position, tap anywhere on the screen to lock it in.

Apply and Tweak Effects

iPhoto for iOS has many more effects than its desktop counterpart. Two sets of effects that are particularly impressive are *Vintage* and *Ink Effects*. Open iPhoto, choose a photo, and then tap *Edit*. Now



Controlled Edits Use Show Strokes and Edge Detection options to get more precise control over your edits.

tap the *Effects* icon in the lower left. A swatch of possible effects will appear. Choosing *Vintage* presents you with a set of six effects, and each of them gives your photo a warm, antique feel. *Ink Effects* give your photos texture and serrated edges that make them look like they're on a tattered canvas. As with *Vintage*, you have six effects to choose from. When you've found one that you like, you can swipe left and right on the

photo to increase or decrease the saturation, and swipe up and down the photo to increase or decrease the appearance of the texture. Note that while iPhoto applies these effects over other edits, effects cannot be combined.

Expand Dynamic Range

Taking a photo in certain lighting conditions can result in a constrained dynamic range. More simply put, the darkest parts of the photo are not pure black, or the brightest parts of the photo are not pure white. As a result, your photo may look dull or washed out.

Luckily, iPhoto for iOS gives you a



Effects Galore

Choose from six Ink Effects to give your photos texture and serrated edges.

iPhoto for iOS has many more effects than its desktop counterpart. Two sets of effects that are particularly impressive are Vintage and Ink Effects.

quick way to fix the exposure and make your photos pop. Open iPhoto, choose a photo, and then tap *Edit*. Now tap the *Exposure* icon in the bottom left. Under your photo, you will see a slide control that lets you adjust the exposure and contrast of the image. And there's something more to this slider: The position of the controls actually gives you important information about the dynamic range of the image, similar to a histogram in a desktop app. At the left end, you'll see a silver rectangle showing the value of the darkest pixel in your photo, and at the other end you'll see a

silver rectangle showing the value of the lightest pixel in your photo.

You can expand the dynamic range of your photo by dragging those controls toward the thin dividers at either end of the slider, which represent the darkest and lightest points possible. (Notice that if you go too far beyond those dividers, the ends will glow red, indicating that you're now dropping out shadows or blowing out highlights.) Once you've set the correct dynamic range, you can then fine-tune the photo's exposure using the slider's brightness and contrast controls. And remember that you can tap the *Show Original* icon in the top right at any time to gauge your progress.

Edit Precisely

Although iPhoto gives you a great collection of adjustment brushes such as Saturation and Sharpen, making

Dynamic Photos If the ends of the exposure slider do not reach the dividers, then your photo lacks full dynamic range.

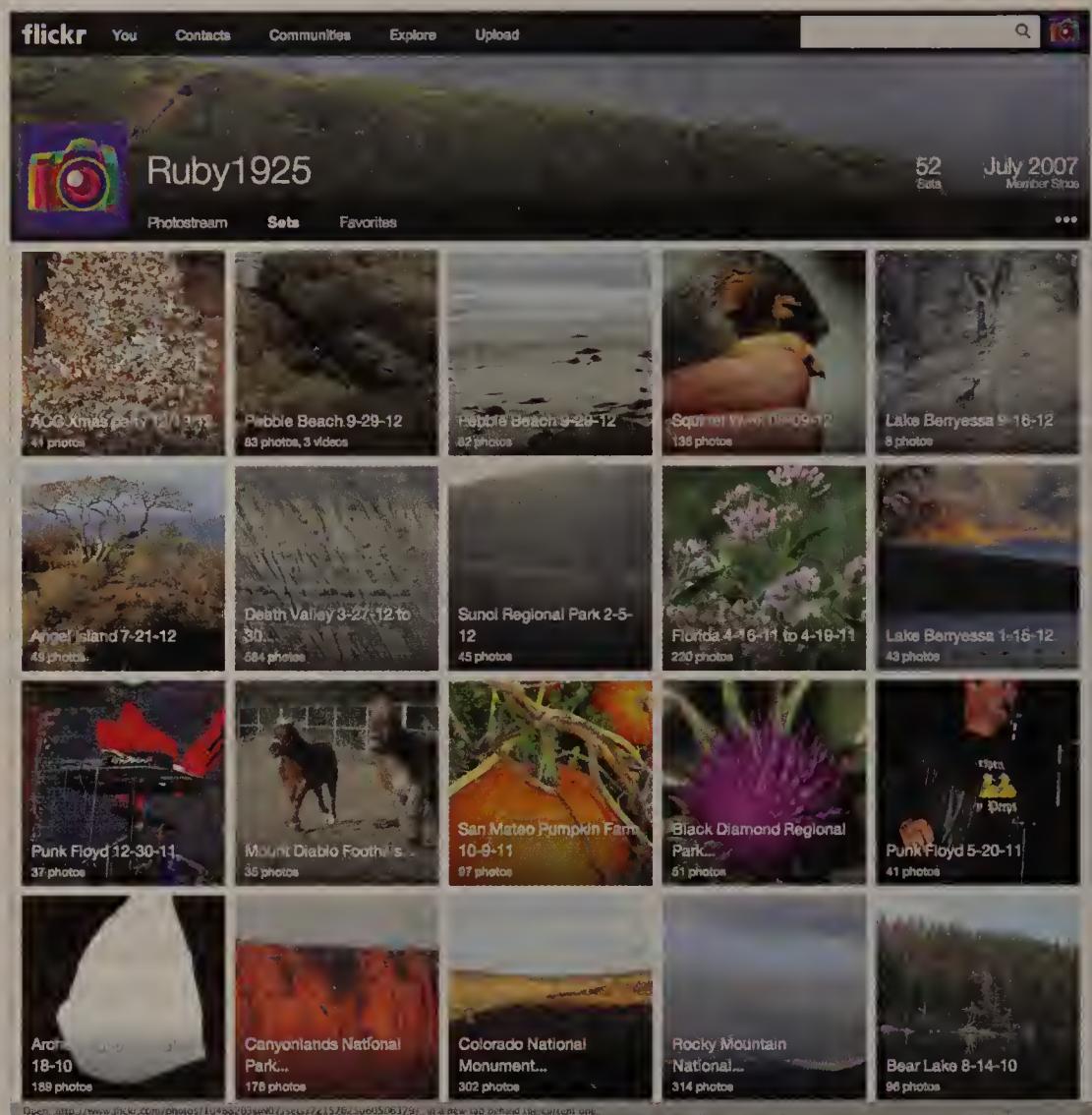


precise edits using finger swipes is sometimes difficult. Invariably, your finger will go out of bounds, and areas that you don't want changed will show the effects of your edit. A good solution to this problem is to use Edge Detection combined with the Show Strokes option.

Open iPhoto and choose a photo that you'd like to tweak. Tap *Edit*, and then tap *Brushes*. Choose a brush—for this example, I chose Saturate—and then tap the *Edge Detection* icon in the bottom right. Now tap the gear icon next to it to call up the brush controls. The second option will be Show Strokes; turn it on and then tap anywhere in your image to make the brush controls pop-over disappear.

Place your finger in the center of an area with a well-defined edge—enlarge the photo if necessary—and slide your finger across it. As you do, you'll see that you're highlighting it in red. Continue to slide your finger around, highlighting the entire area you want to edit. Thanks to iPhoto's Edge Detection, you'll notice that the red highlight does not follow you if you drag your finger across the object's edge. (And if you happen to produce a few errant brush strokes, remember that you can get rid of them using Erase.)

Once you've highlighted everything you want to edit, tap the gear icon to return to the brush controls and turn off Show Strokes. You'll immediately see the results of your efforts; if the edit is too strong, simply use the slider at the top of that window to reduce the intensity.



New Flickr Interface Emphasizes Social Media

BY JACKIE DOVE

Like many longtime Flickr users, I was overjoyed at the prospect of Yahoo lavishing its fading photo service with some love after a prolonged period of neglect. The first step in Flickr's reinvention occurred in January with the release of Flickr 2.0 for iOS (go.macworld.com/flickrios), and now Yahoo has let loose a wholesale overhaul of Flickr's Web-based photo storage and sharing service—along with the release of an Android analog to its iOS mobile app.

Yahoo has imparted a striking, bold look to the updated Flickr site, emphasizing social networking while showcasing large, high-resolution images and offering subscribers a whopping terabyte of free storage space. The result is a far cry from

the utilitarian but tired interface of the past.

Whether you admire or despise the Flickr update depends in large part on who you are and what you expect from the photo showcase. As a photo enthusiast and Flickr subscriber since 2007, I've had my share of complaints about the service, and like many users, I've looked forward to this long-awaited upgrade. Here's my first take.

Vivid New Look

The new Flickr homepage for the Web echoes the front cover of the iOS app, emphasizing social networking features. Two-thirds of the horizontal interface consists of huge images from your contacts as well as from people whom

Wall-to-Wall Images Flickr's attractive new photo set page features large images and less white space.

Flickr thinks you will like. Meanwhile, links to Groups, Explore, the Flickr blog, and other potential contacts Flickr suggests are listed on the remaining right-hand rail of the page.

Flickr has the right idea in emphasizing large photos. While some critics think the presentation is too brassy and in-your-face, I don't agree. The old Flickr, while tastefully conservative, suffered from too much white space and small type, and offered limited opportunities for rearranging the layout. The new design has somewhat rectified the problem: Images are larger, but the opportunity to change the layout is still limited.

The new homepage, however, only shows you your contacts' new images, rather than letting you decide what to see first. To remedy this shortcoming, you can click the You link, which reveals your own photostream and a pull-down menu leading to sets, maps, favorites, galleries, recent activity, and stats.

It's Not Me, It's You

The essence of the new presentation is the You section. The photostream loads all of your images in large blocks, endlessly as you scroll down. Click any individual image, and it opens in a lightbox view with arrow navigation, resembling the black-bordered mobile-app interface, and letting you favorite it, add a comment, or view it full screen. A button lets you view a glorious full-screen slideshow.

I was especially pleased with the interface's new Sets page, which showcases each of your sets in large, easy-to-read modules. Strangely, though, the same old-fashioned white space with blue links appears at the bottom. The Edit module looks like a page torn exactly from the previous version of the site, except with the cover photo at the top.

Some pages in the You module seem like hybrids of the old and new designs, which gives the site an unsettling half-finished look and feel. These pages sport the new cover photo at the top and images in a large, pleasing grid, but the



bottom of the pages resort to the same white background and links that they always had. Some users lament the new concentration of information away from EXIF and metadata toward a more social orientation, and not immediately seeing information they used to see at a glance.

Unfortunately, Flickr appears to have fewer ways to alter the view of your photo sets or to view sets with the photostream, and that's a disappointment. Perhaps as Yahoo engineers revisit the interface, they'll enhance presentation flexibility.

Sweet Deal for Pro Accounts

If you already have a Pro account, read the FAQs to figure out where your current Pro account leaves you. Flickr says that subscriptions are unchanged. But if you were already willing to fork over \$25 for a yearly Pro subscription, you'll now get more for your money.

Whereas the Pro account offered unlimited storage at 50MB per photo, the free account now allots 200MB per photo. The previous Pro account included unlimited video uploads of up to 90 seconds at 500MB per video, whereas the new free account is more video friendly with 1080p HD video totaling 1GB and playback up to 3 minutes. While the new account lets you upload and download in full resolution, the older subscription limits the image sizes that are downloadable for other users. The Pro

Hybrid Design The sleek black background looks great on a high-resolution display. Underneath is the same white text interface.

account is ad-free with access stats and referrals. The new Flickr account has ads (unless you buy the \$50-per-year version of the service) and does not offer stats.

Flickr isn't selling Pro accounts anymore, but people who already have them may keep them as long as they continue to pay the \$25 annual fee. That means anyone who currently has a Pro account can continue to use it, along with unlimited storage, stats, and ad-free viewing.

Significantly, Pro users' photo and video limits will be upgraded to the current standards. Not too shabby.

Glitches

Despite its improvements, some of Flickr's site operations are glitchy. For example, Flickr wants you to upgrade your user icon, but when you click to find a new image, it offers up a small fraction of your photoset to choose from. The only other way to get a new image for your ID is to upload one.

Flickr lets you choose a cover photo, in the same style as Facebook. But I wish the image-editing function of the cover photo more closely resembled the one in Google+, which allows images that are deeper than Facebook, without cropping.

While some popular front-facing pages sport the Flickr upgraded look, many of the back-end pages have the same old look—the small thumbnails, the abundant white space. Similarly, uploading and creating sets still has the same confusing interface as it did before. And, unfortunately, the new Flickr seems slower.

What Do You Say?

Whether you like the new Flickr redesign or not, it's hard to fault Yahoo for trying something new. The new Flickr may be a bit more consumer- and social-network-oriented than its previous incarnation, which was initially geared more toward the professional crowd. While the redesign can be a bit jarring at first, I found myself getting used to it quickly, and appreciating its photo orientation and large imagery.

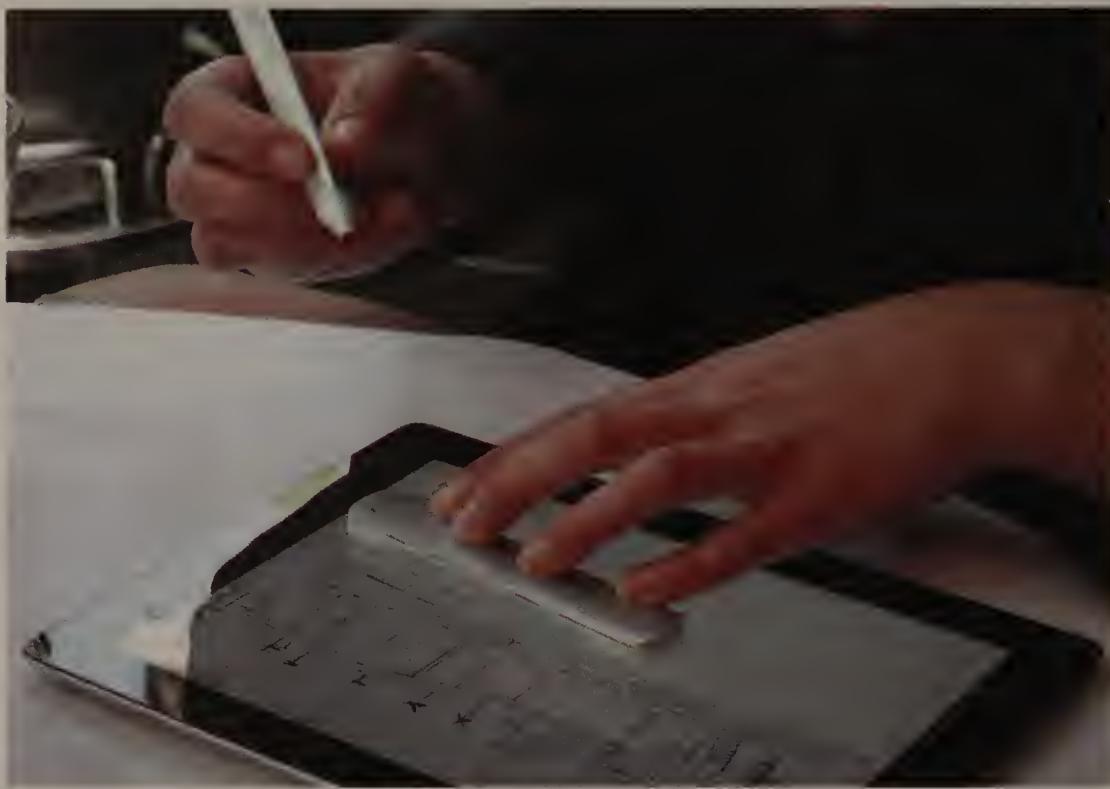
I suspect that this is Flickr's first foray into improving the site, and I hope to see more polish and flexibility added in the upcoming versions.



Inspired Look The Facebook-like presentation gives you a lead image and large image modules.

Adobe's Mighty and Napoleon Drawing Hardware for the iPad

BY ASHLEIGH ALLSOPP



Adobe used its recent Max conference to reveal its first foray into making creative hardware, Project Mighty and Project Napoleon—a digital pen and ruler for iOS devices. Since the accessories are still in the experimental stage, there's no word yet about when Mighty and Napoleon will hit the shelves, but we got our hands on working prototypes.

Project Mighty is a cloud-connected stylus pen that currently works with unreleased Adobe apps that have been designed specifically for the hardware. Adobe chose a twisted, three-sided design for the Mighty, which we found was comfortable to hold and gave us precise control over the movement of the pen while we were drawing.

The prototype we tested had a soft, rubberized tip, but Geoff Dowd, senior experience design lead for Adobe, told us that the company has been experimenting with different tip types, such as a narrower precision tip for more intricate drawings.

When using the Mighty and its accompanying app to draw on an iPad, you can erase lines by using a finger, because the technology has been designed to recognize the difference between a finger and the pen. This way of drawing and erasing became second nature to us

The Napoleon ruler works with the Mighty pen, but you can also use the device by itself when you're drawing just using your finger.

within a few minutes of using the Mighty. Some of the other gestures that you can use to speed up the drawing process include undo with a tap of one finger and redo with a two-finger tap.

The button on the side of the Mighty brings up a tools menu on the iPad that lets you quickly change between a pencil and a paintbrush or choose from a variety of Kuler color themes that are stored within the cloud and are accessible wherever the pen goes.

Digital Hardware Drawing with the Mighty pen and the Napoleon ruler on an iPad.

Another cloud-connected feature of the Mighty is the clipboard, also accessible via the tools menu. The clipboard lets you place previously drawn elements that you've created onto your current canvas. What's cool is that the pen is connected to your personal data, so you can use it to paste elements stored in the clipboard onto any device.

We particularly liked the Mighty's copy feature, which allows you to draw an element and then use the button on the pen to copy that specific element and paste it wherever you choose, including on another device.

Another nice touch is the Mighty's LED, which covers the top of the pen and indicates when you're connected. When the Mighty is docked, the LED gradually changes color too.

You can use Project Napoleon with the Mighty as a line- and shape-drawing aid. You place it on top of the iPad just as you would put an ordinary ruler on paper, and then you choose which

line or shape type you want to draw by touching one of the buttons on its surface. The ruler projects a guide onto the iPad that you can use to accurately draw straight lines, angles, and more.

The Napoleon works with the Mighty, but you can also use the device by itself when you're drawing just using your finger. It's a simple device that does its job well, and it could benefit many digital artists who use their iPads to draw.

Hands On With Oggl: The Instagram for Serious Photographers

BY JACKIE DOVE

The challenge of minimalist interface design, especially for mobile apps, is that it must provide both clarity and symbolic universality. This pull and tug is at work in Hipstamatic's Oggl, a photographic offshoot of the company's filter photo shooter. Images are at its heart, but community, via curation, is in its soul. Oggl seeks to provide a showcase for hobbyists, enthusiasts, and even professionals by offering the use of Hipstamatic's lenses and films to achieve a unique look.

Minimalist Design

You don't have to be a rocket scientist to figure out how to use Oggl. But a page of

instructions and navigation tips will prove helpful. Luckily, Oggl's core functions of lenses and film looks, derived from Hipstamatic, are labeled, and the built-in icon presets—Landscape, Portraiture, Nightlife, Food, and Sunset—are easily recognizable as standard, universal symbols. The square in the middle of the screen lets you set the focus at a single point. Other markings on the lens are meant to help users frame and center their shots.

The nice thing about Oggl is that you don't have to decide everything before you tap the shutter. If you don't like the lens and film you chose, you can pull the image up later and adjust it any way you want.

Where the Tools Are

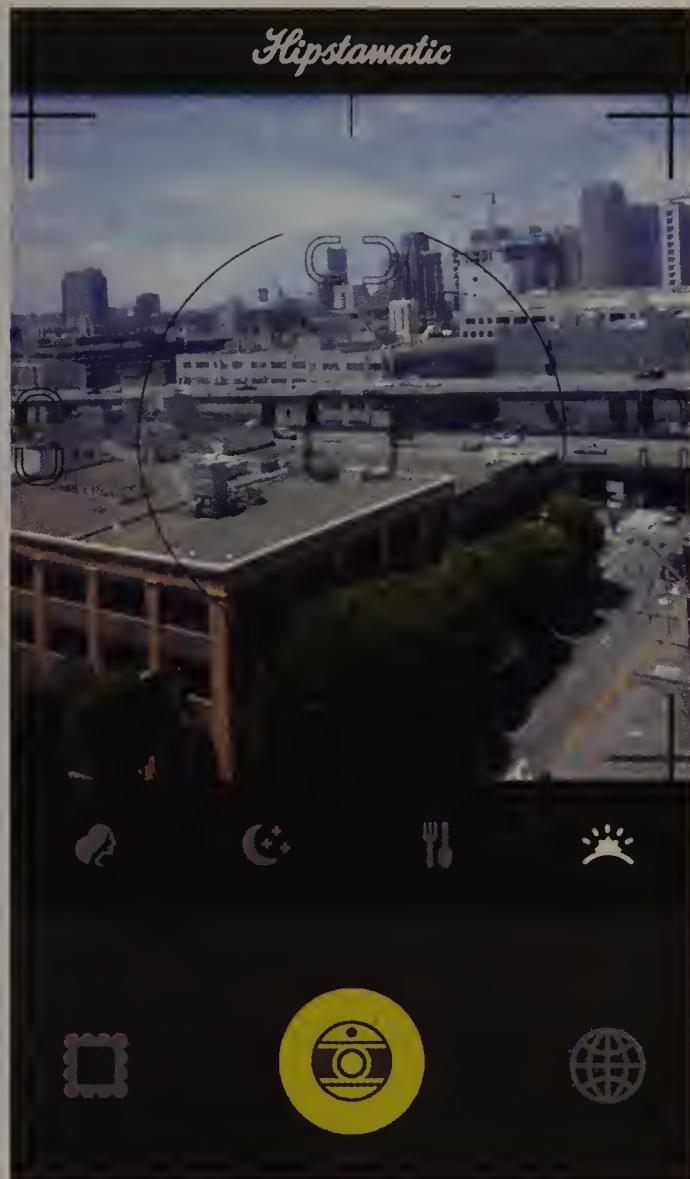
In my tests, however, finding the lenses and films took a few iterations of tapping. Holding the app in shooting mode doesn't immediately offer a gateway to the famed filters; you have to tap or lightly swipe the preset bar to see the icons for the more creative options. You can pair the built-in lenses and films in any combination by using your finger to adjust the slide control. As you try combinations, unfamiliar icons (stacked-heel shoe, martini glass) appear; you can assign these to your favorites so that you can easily recognize them.

Share, Share Alike

Oggl's primary focus is to create a new photo-sharing social network. The Share icon leads you to a pane where you can instantly post to Facebook, Flickr, Four-square, Tumblr, Twitter, and even Instagram.



Adjust Freely When you find the lenses and film controls, you can adjust the combos.



Right on Target Focus on a specific point using the square in the middle of the screen.

Oggl is also aiming for quality over just quantity. So instead of a photo dump of ten similar images, you choose the best one and dress it up in its nicest filter. You can favorite and follow other members too.

Bottom Line

Oggl offers a number of appealing, even addictive features, mostly related to improving your photos with gear and facilitating a sharing community. However, the app feels incomplete without some basic photographic tools like zoom, crop, and at least one more focus point. Pro photographers might also appreciate something in the way of a small histogram or composition grid. It took me a while to really get into the swing of Oggl, but once I did, I found it lots of fun. It offers an alternative perspective on visualization, shooting, artistic rendering, and sharing.

How to Shoot Macro Nature Photos

BY DAVE JOHNSON

No matter what kind of camera you own—SLR, compact, or smartphone—spring and summer are great times to take photos of flowers, insects, and other small details of the natural world.

Macro Mode

You can get some really nice close-up pictures (technically referred to as macro photography) with almost any camera by remembering a few rules. For starters, every camera lens has a minimum focusing distance. Get too close to your subject, and the result will end up blurry. Many compact digital cameras won't automatically focus once you get within a foot or so of your subject. To take a macro photo just inches away, you'll need to turn on the camera's macro mode. But turn it off when you're done—a camera in macro mode won't be able to focus sharply on subjects that are at a normal distance.

Depth of Field

The biggest difference between taking macro photos and ordinary portraits and landscapes is the depth of field you have to work with. This is the region in your photo that's in sharp focus—usually some distance in front of and behind your subject.

Every camera lens has a minimum focusing distance. Get too close to your subject, and the result will end up blurry.

In shooting the Lilliputian world of flower petals and ladybugs, depth of field might be measured in inches—or a fraction of an inch. If you have an SLR or a full-featured compact camera, you can maximize your depth of field by using your aperture; larger f-numbers give the biggest depth of field. If



you have a phone, though, or a camera that doesn't let you dial in an aperture, then you're stuck with what you've got. One other thing to try: If your camera has scene modes, try the one called 'close-up' or 'macro'. It'll set the aperture for as much depth of field as possible.

Either way, the closer you get to your subject, the smaller your depth of field will get. One solution is to compose the photo with a small depth of field in mind. If your

subject extends from the front of the scene into the background, you're virtually guaranteed that part of the photo will be blurry. But if you shoot so that the subject is perpendicular to the camera lens—all the same distance from the camera—then depth of field is far less important.

Calculated Shot When you're shooting macro photos of flowers, watch out for a really narrow depth of field.

Watch the Shake

At these distances, a little camera shake can look like an earthquake. It's always a good idea to put your camera on a tripod or some other sort of support, and that's doubly true when you're shooting flowers and bugs from a few inches away.

Lighting

Direct sunlight is not flattering for close-up nature photos, in part because you'll end up with variations of light and shadows in the scene. You'll get better shots with indirect lighting. If you're going to take nature photos, carry a piece of poster board or a collapsible reflector to place between the sun and your subject. Or you can try to take the shot early or late in the day. Regardless, you'd be surprised how much better your photo can look when the sun isn't shining directly on your scene.

Acorn 4 Adds Impressive Features and a Smart New Look

The new version of the image editor includes many improvements to its feature set and usability.

BY LEX FRIEDMAN

Review

RATING



PRICE

\$50

COMPANY

Flying Meat

URL

flyingmeat.com

At its traditional price of \$50, Acorn has never aimed to be a Photoshop replacement. Instead, it's a Photoshop alternative. Though Photoshop offers far more features, Acorn is no

slouch: The program supports layers, masks, alphas, and multistop gradients; it can import and export files in PSD (Photoshop) format; and it's also fully optimized for Retina displays.

With the release of Acorn 4, the app gains nondestructive filters; faster and smoother drawing tools; new shapes like curves, arrows, and stars; and some 150 other performance improvements and features. These additions have the interesting, double-faceted effect of making the app both impressively more powerful and decidedly simpler.

The Basics

Acorn's interface gets an overhaul in version 4. No longer are the drawing and editing tools coupled in a squat palette with their options, your layers, and everything else. Instead, it has a narrow palette with drawing tools, a separate one with tool options and layers, and, of course, a stand-alone canvas. Though the previous all-in-one palette was more compact, this new approach in Acorn 4 makes a lot of sense. It's easier to organize, but everything actually shows more than it used to: Whereas Acorn 3.x showed just one selection tool (upon which you had to tap and hold to choose a different selection shape), the taller tools palette in Acorn 4 shows four different selection options at all times. Quicker access to all those options, and to tools such as Smudge and Dodge—all without the click-and-hold



requirement—saves a lot of time. Also, the new shape tools available (the arrow, star, and curve tools) all work well, with nice customization options.

Special Effects

While Acorn 3.x introduced the ability to assign visual effects as Layer Styles, Acorn 4 simplifies adding such effects to layers with nondestructive filters. When you add effects to a layer, a new Filters nonmodal window appears. You can chain effects together, but continue to tweak their settings and remove all or part of them, even after saving your file. That essentially means you have infinite undo for your filters. Also, adjusting filter effects is easier than ever before: You can click and drag the canvas to adjust filters and effects, instead of needing to adjust the sometimes arcane settings directly.

Achieving Balance

Acorn 4 also gains some new options for adjusting your images' levels and curves.

It's Different Acorn's new version uses an interface with separate palettes dedicated to tools and options.

When adjusting levels, you can opt to see a live histogram for your image. The new curves tool offers serious tonal control over red, green, and blue levels in your image. Professionals will know precisely what to do with those tools, while people like me will muck about with them half-randomly, seeing when our images look better or worse. So the tools should work for both sets of users.

Bottom Line

Acorn is a very good image editor, and it has become an essential part of my daily workflow. Version 4 incorporates marked improvements to both the app's feature set and its usability. The new filter options and layout are excellent additions. The app's permanent residence in my Dock is a testament to its powerful editing options and its impressive ease of use.

Help Desk

Answering Your Questions and Sharing Your Tips About Getting the Most From Your Mac

Mac OS X Hints

The insider tips you won't get from Apple.

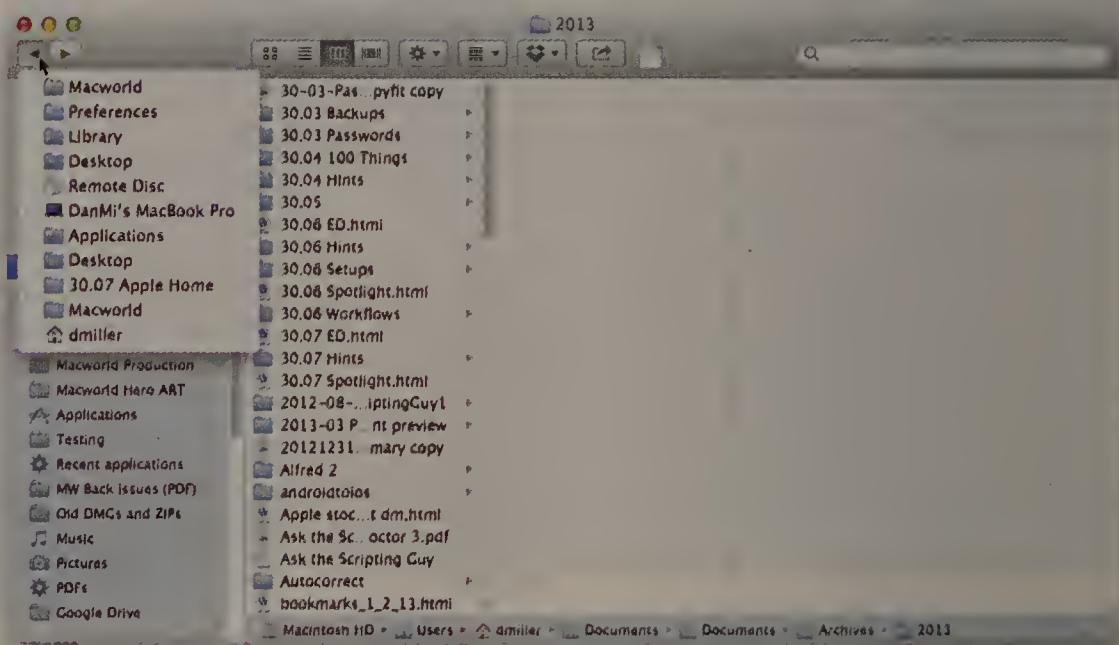
BY KIRK McELHEARN

See Finder History

The Finder toolbar, by default, has Previous and Next arrow buttons that allow you to navigate back and forth in folders. If you click the Previous button, you go back, one window at a time, to all of the folders you've visited in that Finder window in a given session. But if you click and hold the Previous button, you'll see a list of all the folders you've visited; you can then jump to any of them by selecting it. This is a good way to quickly get to a folder that you've used, but that's far from where you are in the file system.

Create 'Sticky' Time Machine Exclusions

You probably know that you can exclude certain files and folders from your Time Machine backups via the Time Machine pane in System Preferences. You might not be aware, however, that you can also do this from Terminal's command line. To do so, open Terminal and run this command: **sudo tmutil addexclusion path**, where *path* is a file or folder. For example, if I wanted to exclude my Downloads folder from my Time Machine backups, I would run: **sudo tmutil addexclusion ~/Downloads**.



The **tmutil addexclusion** command has an interesting property: It's sticky—meaning that when you run this command, the item you exclude remains on the Time Machine exclusion list even if you move it (that's not the case when you exclude items from the Time Machine preference pane). But if you use the above command with the **-p** flag, it will not be sticky; instead, it will operate the same way as an exclusion you add from the GUI. (For more about what **tmutil** can do, type **man tmutil** in Terminal.)

Jump to a Folder Click the Finder's Previous arrow button, shown at the top left, to make a beeline to a folder you've previously visited.

Calculate Users' Disk Use

An OS X Hints reader wanted to find out which users on a shared computer were taking up the most disk space. He picked ten users, but the number is arbitrary.

In Terminal, type this command: **sudo -s du -smh /Users/* | sort -nr | head -n 10**. (If you don't use **sudo -s**, you may get Permission Denied errors, and the results may be inaccurate; but if you are logged in as the administrator, you can remove the **sudo -s** part. You can adjust **10** to the number of accounts on your system. The command also assumes that all

user folders are in the **/Users** directory, which is as it should be.)

When the command completes, it

```
dmiller — bash — 79x10
13:47:16 ~: sudo -s du -smh /Users/* | sort -nr | head -n 3
Password:
940K /Users/Shared
80G /Users/dmiller
22M /Users/admin
14:03:25 ~:
```

Disk Hogs Find out who's using up disk space on a shared system.

should present you with a list of user folders, along with the amount of disk space that each of them is taking up.

Many third-party utilities will give you the same results via a GUI, but this command-line version is handy to have for quick checks or for use on remote machines over a Secure Shell (SSH) connection. It can take a while to complete, so be patient. Also, the **du** command uses a lot of CPU resources, so it's best to do this while not running other CPU-intensive programs.

Open the Messages Window When Message Received

Another OS X *Hints* reader was annoyed by a certain behavior of Messages: When he receives messages, the chat window doesn't open automatically. Instead, the Messages app icon displays a badge and bounces a couple of times in the Dock.

But because he may be away from his computer when messages arrive—and because he always keeps the Dock hidden—he could easily miss an incoming message for a long time. So with the help of some fellow readers, he came up with the following solution.

First, open AppleScript Editor and enter the script shown in the “Open Messages” script box, below. Pick a name and save the script to *username/Library/Scripts*. Next, choose *Messages* → *Preferences*, and select *Alerts*. Under Event, select *Message Received*. Check *Run an AppleScript script* and select your previously saved script from the pop-up menu.

From now on, whenever you receive a new message while you're away from your Mac, you'll have an open window with the message waiting for you.

Script Box: Open Messages

```
using terms from application "Messages"
on message received theText from theBuddy for theChat
    set mWin to the first window whose name starts with
    "Messages"
    set (the visible of mWin) to true
end message received
end using terms from
```

Script Box: New Finder Window

```
tell application "Finder"
try
    target of window 1
    make new Finder window to result
on error
    make new Finder window to home
end try
end tell
```

In the Messages app, when you receive a message, the chat window doesn't open automatically.

Chat in Facebook With Messages

Because Facebook chat uses the Jabber protocol, and because Messages supports Jabber, you can use Mountain Lion's built-in client to chat on the social network.

To set it up, open Messages' preferences, and click *Accounts*. Click the plus (+) button to create a new account. For Account Type, choose *Jabber*. For your account name, enter your Facebook username (the string that appears after ‘www.facebook.com’ when you're in your Facebook timeline). The account name for the Jabber account should therefore be *yourfacebookuser_name@chat.facebook.com*. Enter your Facebook password in the Password field, and click *Done*.

Messages should log in to the account, and you should see a message saying, ‘You

are now Online to Chat! You are now Online to Chat. Please note that this also marks you as Online on facebook.com.’ You can check Facebook to confirm this; you should see that you are online for chat when you visit Facebook.

There is one caveat to this trick: A Facebook chat that involves more than just you and one other individual won't show up in Messages at all. You have to actually visit the Facebook site to see it.

Open New Finder Window to Current Folder

By default, when you open a new Finder window (⌘-N), it opens to the folder you've set in the Finder's General preferences. But there are times when you'd prefer to open a new Finder window to the folder you're currently in—such as when you're moving files around among subfolders in a given directory. Turns out there are a couple of ways to do this.

The first method uses a simple AppleScript. To start, open AppleScript Editor and enter the script shown in “New Finder Window” above. Save this script as an application, and then drag it to the Finder window toolbar, where it will be just a click away. (You can then move the application file itself anywhere you wish.)

The second method is even simpler. In the Finder, make sure that the path bar is visible (*View* → *Show Path Bar*). The current path is then displayed at the bottom of each Finder window. The current folder is always displayed last in the path bar (even if the path bar is too short to display all of the names), so ⌘-double-clicking the last icon in the path bar will open a new window to the current folder.

Mac 911

Solutions to your most vexing Mac problems.

BY CHRISTOPHER BREEN



Blurring Objects in iMovie '11

Q: I'm working on a just-for-fun movie in iMovie '11 that I'm going to put on YouTube. In one scene, you can see a car's license plate in the background. Is there some way I can cover it up?

Fred Hendricks

A: As long as the camera and the car don't move, yes. Launch iMovie, select *iMovie → Preferences*, choose the *General* preference, and enable *Show Advanced Tools*. Close iMovie's preferences.

Select the clip that shows the license plate so that it appears in iMovie's viewer. Press $\text{⌘}-\text{Shift}-4$ to engage the screenshot selection tool and draw a selection around the license plate. Let go of the mouse or trackpad, and a shutter sound will tell you that the screenshot has been saved to the desktop. Open that screenshot in any image editor that has the ability to blur your image, do whatever you need to do to make the license plate unreadable, and save the screenshot to the desktop.

Now drag that screenshot over your iMovie clip and, in the menu that appears, choose *Picture in Picture*. The blurred image will appear as a still image in both iMovie's project pane and the viewer. Adjust the length of the clip so that it covers the license plate for the duration of the scene. Finally, resize the image and place it where you want it (see "Hazy Outlook").

Picture in Picture is great for covering up a stationary object; but if the object moves, iMovie isn't your friend. You could repeat this trick over and over, adding multiple instances of the image and moving them in tandem with the forbidden object. But you'd save a lot of time by using a more professional video editor, such as Final Cut Pro X, that supports keyframe animation.

QuickTime 7 Pro Not Dead Yet

Q: I have some video clips that I'd like to lightly edit. iMovie seems like overkill for these jobs. Can you recommend something simpler?

Cameron Chang

Hazy Outlook Insert a blurred version of what you want to hide as a Picture in Picture image.

A: I can: QuickTime 7 Pro. At one time, for \$30 you could upgrade the version of QuickTime Player that shipped with your Mac to the Pro version, which let you cut video and/or audio segments from one movie and add them to another, scale elements when you added them, layer soundtracks, and add subtitles and text to your movies. It wasn't terribly intuitive—but if you knew how to use it, you could perform some common tasks quite easily.

Then QuickTime Player X came along and spoiled the party. The current version of QuickTime Player is indeed a player, not an editor. The selection tools you find are awkward, and a properties window for adjusting a movie's elements is absent. The player permits you to capture audio and video (as well as your Mac's screen), but as an editor it's a complete zero.

Fortunately, Apple didn't kill version 7 Pro (though the company hardly touts it). As you suggest, Apple would likely point you to iMovie as the way to get these simple tasks done, but I agree with you that iMovie is more trouble than it's worth in this instance. Travel to www.apple.com/quicktime/extending, pungle up your \$30, and you're well on your way to performing simple movie edits.

AirPort Interference? Lay Off

Q: I'm having interference problems with my AirPort network and 5GHz cordless phone. Repositioning has



Have a Problem?

Go to the Mac 911 forum
(go.macworld.com/mac911)
to ask about your misbehaving
Macs and applications.

helped somewhat, but I'd like to pursue restricting the channels used by my AirPort Extreme Base Station. What's the best way to go about this?

Richard Fiddler

A: Leave it alone. And by *it* I mean the settings you find in the Wireless Options sheet of AirPort Utility. By default, your base station is configured for automatic radio mode and channel selection. This is a good thing: When you first power up the base station, it scans its environment and picks the best-performing channel.

Over time, however, the base station's automatic setting may no longer be the best choice—for example, when you (or others around you) introduce devices that cause interference. If you find that your signal has degraded, unplug the base station, wait a minute, and plug it back in. This will cause it to scan the area once again and pick the best channels (which may now be different from the ones it picked the last time you powered it on).

If you are certain that your phone is the problem, I suggest that you replace it with a new one that supports the Digital Enhanced Cordless Telecommunications (DECT) standard. This standard is sometimes referred to as Wi-Fi Safe because, unlike the 5.8GHz phone you're currently using, it doesn't crowd into the Wi-Fi spectrum and cause interference. All of the major cordless phone manufacturers support DECT, and the phones are so common that you don't have to pay a premium for them.

How to Import Calendars

Q: How do I make holidays appear in Calendar on my Mac and iPhone?

Michael Wolfson

A: By default, Calendar doesn't come outfitted with a holiday calendar, but you can easily add one through calendar subscriptions. The manual method for accomplishing this is to cruise the Internet until you locate the kind of calendar you seek; copy that calendar's URL, choose *File* → *New Calendar Subscription*, paste the copied URL in the sheet

Bugs & Fixes

BY TED LANDAU



Fixing Apple TV Lost Network Connections

Occasionally, my 1080p Apple TV loses interest in connecting to my local network. Specifically, if I go to the Network setting, I find no IP address listed. When this vanishing act occurs, the Apple TV can't access any of its Internet-based services or my iTunes Library. It worked perfectly in the past but started misbehaving after a firmware update, raising my suspicions.

The Apple TV is hooked up to my network via a wired (ethernet) connection. Some quick diagnostic checks indicated that the source of the problem was almost certainly the Apple TV itself. The other networked devices—whether connected via Wi-Fi or via ethernet—functioned as expected. Both my AirPort base station and my Internet modem showed all systems go. Even my second Apple TV, connected to another television, was working fine.

To get the Apple TV back on the network, I selected *Settings* → *General* → *Restart* to restart the device. This fixed the problem temporarily. The network loss recurred about once every two weeks, but restarting always restored the connection. Still, I wanted a fix that would squash the bug entirely.

In some cases, a faulty Apple TV can cause Wi-Fi failures. A Macworld.com article in April noted that "a small subset" of third-generation Apple TV's qualify for free replacement by Apple (go.macworld.com/atv). To qualify, a device's serial number must match the criteria cited in the article. But my problem was with the ethernet connection, not Wi-Fi, and my

serial number was outside the range of qualifying numbers cited in online articles.

Regardless, I set up an appointment with the Genius Bar and took my unit in. Sure enough, I walked out of the Apple Store with a new Apple TV, no hassles. I queried the Genius as to the cause of the network error. Confirming my suspicion, he said that a recent firmware update had triggered it. The update, he said, made an erroneous change to the firmware in a subset of third-generation Apple TVs that a further update couldn't undo. The only solution was to offer a replacement.



WhenTextEdit Won't Save

Occasionally,TextEdit refuses to save any documents I have open. Once this symptom appears, any new documents that I open inTextEdit also refuse to save. Selecting *Duplicate* doesn't work around the problem, as you can't save the duplicate copy. Likewise, using *Save As* is fruitless.

Happily, the short-term fix is an easy one. Select *File* → *QuitTextEdit* from the *File* menu. *TextEdit* should quit immediately, without prompting you to save open documents first. But never fear—your changes will be saved thanks to Mountain Lion's auto-save feature, which saves in the background. After you successfully quit *TextEdit*, simply relaunch it. The symptom should be gone. You will be able to save documents again—until the next time the bug rears its head.

Share your problems at bugs@macworld.com or on Macworld.com's Mac 911 forum.

that appears, and then click *Subscribe*.

Thus, for example, to add the San Francisco Giants' 2013 baseball schedule to Calendar, I enter this URL: http://mlb.mlb.com/soa/ical/schedule.ics?team_id=137&season=2013.

When I click *Subscribe*, I see the calendar name along with its chosen color (you can pick a different one if you like). I then choose where to add that calen-

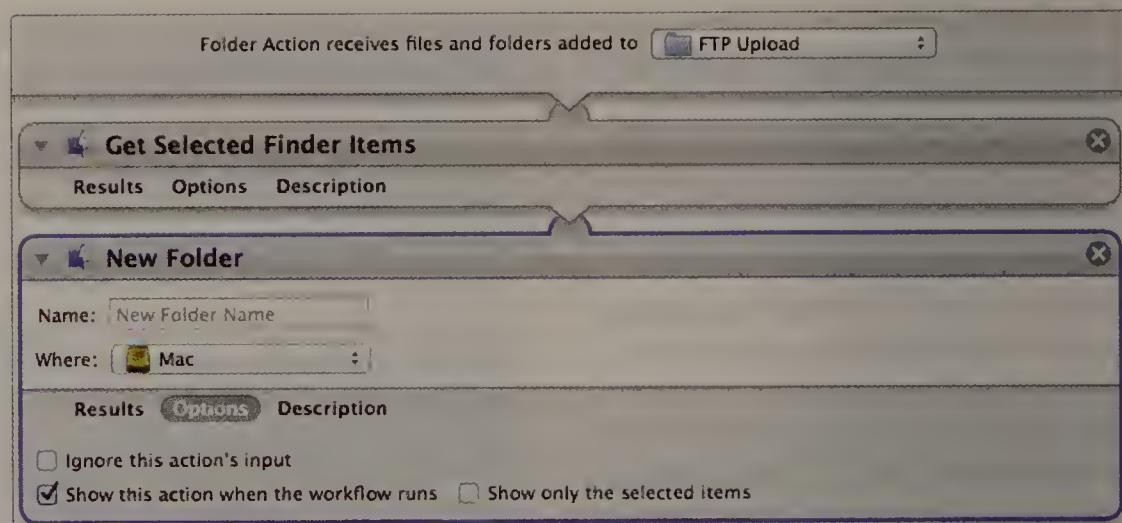
dar. I can add it on my Mac or to iCloud, for instance. I can also choose to remove alerts and attachments, and determine how frequently I want the calendar to refresh—every 5 minutes, every 15 minutes, every hour, every day, or every week. For this particular calendar, I want the content to refresh every day, because the schedule is regularly updated to include the previous days' scores.

But I can save you the search for the calendar you seek by pointing you to a place where you can download a calendar of U.S. holidays (go.macworld.com/usholidays). When you click the *Download* link, the calendar will download, the Calendar app will launch, and you'll be prompted to configure the calendar.

Because you want this calendar to be synced to your iPhone as well, you should choose to add it to iCloud. It, along with all your other calendars, will then be synced to your iOS devices.

How to Automate FTP Uploads

Q: I've created a folder action in Automator so that any files I drop onto it upload to a favorites folder on my FTP server via Panic's Transmit utility. Now I would like to change the workflow so that when I drop a file on the folder, a dialog box comes up asking me to enter a folder name. The



Auto-FTP Use Automator to make uploading to an FTP server more efficient.

action would then create a new folder with the same name on the server, and drop the files in it. Is this possible?

Macworld forum member DeathRobot

A: Sure. Transmit installs a few Automator actions. Among them is Mount, which you can use to mount a directory on your FTP

server. But you can save yourself some trouble by instead working with Transmit's Transmit Disk feature, which allows you to mount an FTP directory as if it were a local disk. Then, configure Automator this way:

Create an Automator folder action. Then create a folder on your desktop, and give it an intuitive name such as **FTP**

An advertisement for Macworld SUPERRGUIDES. On the left, there are four book covers: "iPad Mini STARTER GUIDE", "iPhone 5 SUPERRGUIDE", "iCloud STARTER GUIDE", and a large "Macworld SUPERRGUIDES" book. The "iCloud" book cover features a large silver cloud icon. The "Macworld SUPERRGUIDES" book is the largest and most prominent. To the right, the text "Macworld SUPERRGUIDES" is written in large, bold letters, followed by the website "macworld.com/superguide". Below this, a smaller text block reads: "Master your Apple hardware and software with these in-depth guides from *Macworld* editors. Download free samples of our 15 titles now." A QR code is located in the bottom right corner.

Upload. Drag this folder to the pop-up menu at the top of the workflow (where it says 'Folder Action receives files and folders added to'). You now have your source folder.

Next, select Automator's *Files & Folders* library and drag *Get Selected Finder Items* to the workflow. While you're there, drag *New Folder* in right after it.

Click *Options* in the *New Folder* action, and enable the *Show this action when the workflow runs* option. Drag your mounted FTP directory to the *Where* pop-up menu in this action. Don't bother filling in the *Name* field for the folder. Save your workflow.

And that's all there is to it (see "Auto-FTP"). Henceforth, when you place items in this folder, a small *New Folder* window will appear. Enter the name of the folder that you would like to have appear on your server, and click *Continue*. The new folder (which contains the items that you dragged into your source folder) will be uploaded to the server.

Mac 101

Whacking the Discolored iPad

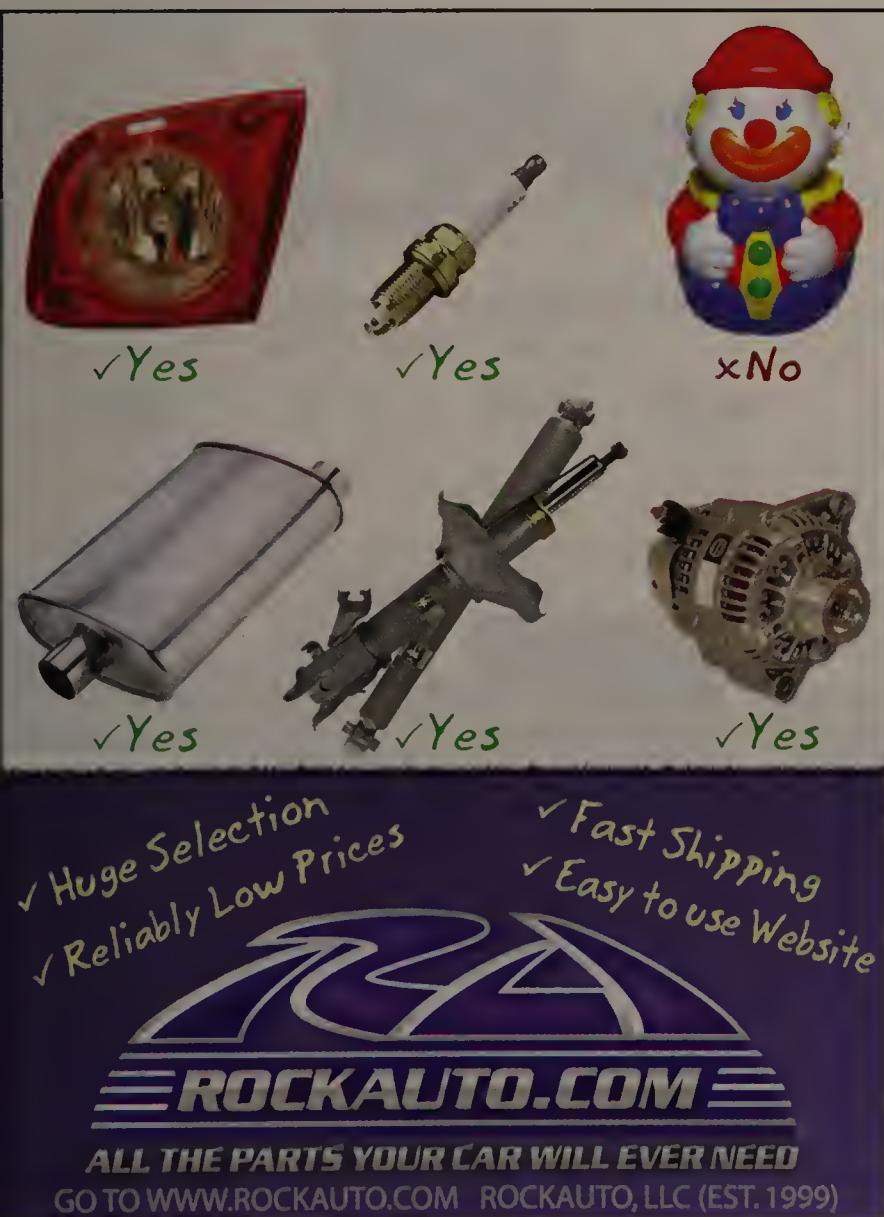
Q: I dropped my first-generation iPad, and now the screen's colors are all wrong. Blacks are green, and the images display a lot of "static." How do I fix it?

Patricia Whitney

A: Your iPad is well out of warranty. If you take it to an Apple Store, you'll be offered a replacement first-generation iPad for \$249. For that kind of money, I'd instead consider purchasing a new iPad mini for \$329 or a second-generation iPad for \$399.

But before doing any of that, try one trick. When you dropped the tablet, you likely jarred a connection within the iPad, which is what's causing the problem. It's possible that with a similar smiting you can put things right. Flip the iPad over so that its display faces away from you and give it a goodly biff just above the Apple logo. Use the meaty portion of your fist rather than your knuckles (and certainly avoid using an implement that might dent the iPad). If that doesn't set things on the path toward righteousness, bap the tablet a few more times. With luck, its correct coloring will be restored.

I understand that this sounds like a radical action, but it's one I've used successfully to repair an iPad in this condition. Back up your iPad before attempting it, and then give the tablet a whack or two. After all, what have you got to lose?



✓ Yes

✓ Yes

x No

✓ Yes

✓ Yes

✓ Yes

✓ Huge Selection

✓ Reliably Low Prices

✓ Fast Shipping

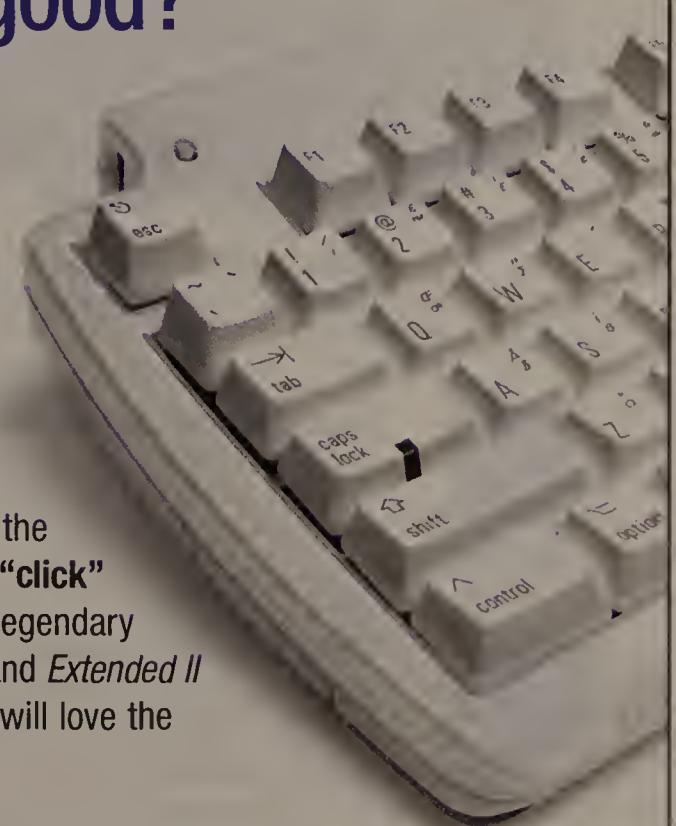
✓ Easy to use Website

ROCKAUTO.COM

ALL THE PARTS YOUR CAR WILL EVER NEED
GO TO WWW.ROCKAUTO.COM ROCKAUTO, LLC (EST. 1999)

Remember when typing
felt good?

Mac users
who crave the
satisfying "click"
of Apple's legendary
Extended and *Extended II*
keyboards will love the
Tactile Pro.



tactilepro

www.matias.ca

X-treme protection against accidental drops, impacts and scratches without sacrificing looks or adding bulk!



KINETIC ENERGY X-ORBING

Unlike common military-impact case materials, the KX uses state-of-the-art X-Orbing gel technology to absorb and evenly distribute kinetic energy.

only \$35 for iPhone 5 & iPhone 4/4s

Watch KX survive the extreme drop tests at:
www.macsales.com/kx

Darkness



Trooper



Midnight



Roulette Red



Buzz



Rose



Eagle Shield



Nubar Forest



Add a second drive to your Mac mini or laptop



Data Doubler for Mac mini

Includes all tools, cable and mounting to add a second 2.5" drive (standard 9.5mm or 7mm) to your Mac mini **from \$34.99**



Data Doubler for MacBook Pro

Add up to 2.5TB of internal storage capacity or add an SSD for near instantaneous boot and app load **from \$44.99**



SSD Install Kit for iMacs

Experience OWC SSD speed by utilizing the empty drive bay in your iMac **from \$44.99**

HDD Upgrade Kits **from \$59.99**

More Memory=Faster Mac

OWC Memory is built to the Highest Standards to truly give your Mac the best performance and reliability!



Add up to 16GB to Mac Laptops & Mac mini
Add up to 32GB to iMac

4GB
sets from
\$39.97

8GB
sets from
\$75.99

16GB
sets from
\$149.99

32GB
sets from
\$297.99



Save up to
62%
vs factory!

Add up to 128GB to Mac Pro

Top quality, lifetime warranty, premium certified for Mac Pro

8GB
sets from
\$72.99

16GB
sets from
\$139.99

32GB
sets from
\$377.99

64GB
sets from
\$739.99

Free online install videos | Free expert support 24/7

OWC | 25
YEARS

1-800-275-4576 | www.macsales.com

© Other World Computing. All rights reserved. Apple, iMac, Mac, MacBook Air, MacBook Pro, and Mac Mini are trademarks of Apple Inc., registered in the U.S. and other countries. All other trademarks are the property of their respective owners. Prices, specifications and availability are subject to change without notice.

Exceptional Desktop & Portable Drives

High-Performance | A/V | Graphics | Backup

High-Quality. High-Reliability.

From portables to desktops, single to multi drive, there's an OWC External Drive built for your storage needs and demanding tasks. Choose OWC for industry trusted drives that can serve as your reliable workhorse.

Created for Mac enthusiasts, and backed by award winning U.S. based customer support, there's no drive like an OWC drive.

Mercury On-the-Go

USB 3.0, FW 800/400

UP TO 1.5TB **from \$66.97**

Portable + Bus-powered



Mercury Elite Pro mini

USB 3.0, FW 800/400, eSATA

UP TO 2TB **from \$86.99**

Portable + Bus-powered

Mercury Elite Pro

USB 3.0, FW 800/400, eSATA

UP TO 4TB **from \$104.99**

Mercury Elite Pro Dual

USB 2.0, FW 800/400, eSATA

UP TO 8TB **from \$214.99**

Dual-Drive Performance RAID

Mercury Elite Pro Qx2

USB 3.0*, FW 800/400, eSATA

4TB–16TB **from \$549.99**

4-Drive Performance RAID 0/1/5/10

Instantly back up critical data

The Guardian MAXimus line of fast and reliable external drives provides an extra layer of data protection. Both models feature two internal drives with one drive working as an instant backup of any data you write. Mini models also feature a selectable performance mode that allows you to utilize both drives together for faster data writing speeds.



Guardian MAXimus

USB 3.0, FW 800/400, eSATA

UP TO 8TB **from \$229.99**

Guardian MAXimus mini

USB 2.0, FW 800/400, eSATA

UP TO 2TB **from \$187.99**

Portable + Bus-powered

MAXimum storage with a mini footprint



miniStack MAX

USB 3.0 + HUB, FW 800/400, eSATA

Optical DVD or BD Drive + Hard Drive

The miniStack MAX puts the diverse functionality of a high-capacity hard drive, Blu-ray/CD/DVD optical drive, SD card reader and USB powered hub into a single elegant aluminum finish enclosure.

UP TO 4TB **from \$259.99**



miniStack

USB 3.0, FW 800/400, eSATA

Designed to complement the look and feel of the Mac lineup, the large storage capacity and multi-interface options make the miniStack ideal for storing or backing up large music, photo, and video libraries.

UP TO 4TB **from \$137.99**



miniStack Classic

USB 2.0 + HUB, FW 800/400

A space-saving storage and backup solution that perfectly complements the Mac mini (2009 or earlier). The three-port integrated USB 2.0 hub reduces unsightly clutter and makes connecting iDevices, mice, and keyboards convenient.

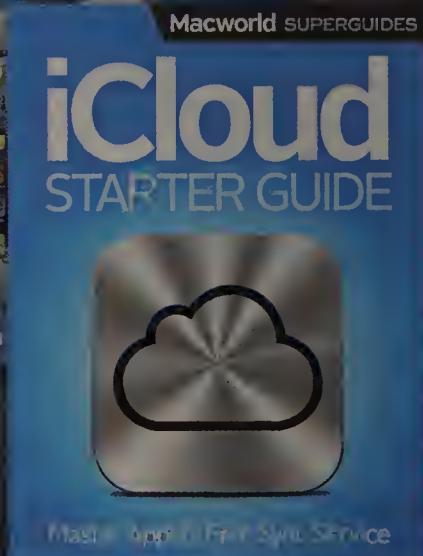
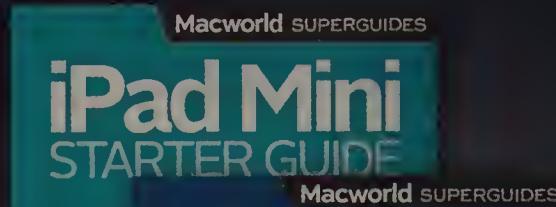
UP TO 4TB **from \$109.99**

Advertisers Index

Interact with the companies whose products and services are advertised in Macworld.

ADVERTISER	INTERACT	PAGE NO.	ADVERTISER	INTERACT	PAGE NO.
1&1	1and1.com	49	T		
A			Techno-Aide	myupdesk.com	21
Apogee Electronics	apogeedigital.com	9	The Neat Company	neat.com	17
B			The Teaching Company	thegreatcourses.com/7macw	47
Big Ass Fans	haikufan.com/mw	3	Z		
Biomorph Desks	biomorph.com	94	ZAGG	zagg.com	24
Blackmagic Design	blackmagic-design.com	19			
Booq, LLC.	booqbags.com	C2			
C					
Cablejive	cablejive.com	95			
Carbonite	carbonite.com	4			
Carry Technology	carry.com.tw	72			
CASEBUDi	casebudi.com	95			
Cooler Master	coolermaster.com	11			
CorNetworks/MacAce	macace.net	43			
D					
DriveSavers Data Recovery	drivesavers.com	94			
E					
Eagle Tech USA	eagletechusa.com	8			
EARBUDi	earbudi.com	95			
F					
FatCow Hosting	fatcow.com/macworld	67			
Ford	ford.com	C4			
I					
IDScan.net	idscan.net	95			
Insight Cruises	insightcruises.com	6, 95			
J					
JAMF	jamfsoftware.com/for-business	61			
JDIBackup.com	jdibackup.com	15			
K					
Kinekt Design	kinektdesign.com	95			
M					
Mac of All Trades	macofalltrades.com	95			
Mace/Macally	macally.com	73			
Macecessity	macecessity.com	94			
Matias Corporation	matias.ca	89			
O					
OCZ Technology	ocz.com	7			
OtherWorldComputing	macsales.com	C3, 57, 90-91			
R					
Rain Design	raindesigninc.com	94			
RockAuto LLC	rockauto.com	89			
Rosetta Stone, Ltd.	rosettastone.com	25			
S					
SellYourMac.com	sellyourmac.com	41			
Siber Systems	roboform.com/macspecial	33			

Macworld SUPERRGUIDES



Master your Apple hardware and software with these in-depth guides from *Macworld* editors. Download free samples of our titles now.

macworld.com/superguide



SUBSCRIBE TODAY!

Macworld Magazine on the iPad

Everything you've come to love about Macworld magazine is now available in an Enhanced iPad Edition!

FEATURES OF THE iPAD EDITION

- Optimized for the new iPad
- Integrated Video Clips, Sound Bites, and Multimedia
- High-Resolution Images
- iPad Intuitive Layout
 - Swipe and slide through digitally remastered articles
- Fully Interactive Table of Contents
- URL and Macworld Find-Product Code Supported
 - Links to webpages, app and product reviews
- Bookmark Articles
- Share Content via Twitter and Email



DIGITAL iPAD SUBSCRIPTION

Available through the Apple Newsstand
Monthly Recurring: \$1.99 per month
(\$23.88 per year)

BUNDLE (PRINT AND DIGITAL) SUBSCRIPTION

For a limited time get the Enhanced iPad Edition FREE with any print subscription!

Annual Subscription: \$21.97

Go to macworld.com/subscribe to get it now!

A Standing Desk
is the Smart and Healthy Way to Work
at Home and Office



X02 EL Motorized Desk

SHOP our full range at biomorph.com • call us today 888 302 DESK

biomorph
adjustable computer furniture

LAPTUK PRO
by MACESSITY.COM



We can save it!

Want proof? www.drivesavers.com 800.440.1904

© 2009 DriveSavers, Inc. All Rights Reserved. DriveSavers Data Recovery, the DriveSavers logo, and the "We can save it!" slogan are registered trademarks of DriveSavers, Inc.

Take it easy.

iSlider

With a unique sliding design, iSlider stand is easy to carry, use and keep. Simply slide out its base, adjust to your preferred viewing and put on your iPad. iSlider's aluminum casing serves as a firm support and protection, while looking sleek with its streamlined profile. www.raindesigninc.com

rain

m mac of all trades

Your choice for buying and selling used Macs.

- Unbeatable Pricing
- Mac-Estimator, our FREE pricing tool for sellers
- 90-day warranty with a 15-month option
- Volume discounts
- Volume on-site packaging & removal
- School POs (restrictions apply)



Visit us online today
macofalltrades.com

Custom App Development



ID Scanning solutions for:

- ✓ Visitor & Access management
- ✓ Age verification
- ✓ ID data capture
- ✓ CRM / Event management
- ✓ Mobile marketing, etc.
- ✓ Hardware, Scanners, Readers

1.888.430.8936
www.IDScan.net

Solutions for: iPhone/iPad/iPod Desktop/Laptop/POS Developers

First ID Scanning App
Approved by Apple



15% off code: mw3180
www.cablejive.com

CableJive



dockBoss^{air}

Your audio dock is now wireless.

start fidgeting

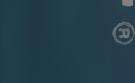
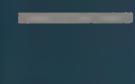


The Gear Ring by Kinekt Design gives you permission to play.

Interactive jewelry for men and women. The stainless steel ring features gears that turn in unison when you spin the outer rims (watch our video!) Lifetime warranty and free shipping included.

Order online or call: **888-600-8494**

www.kinektdesign.com



MacMania 17

British Isles
June 13th – 23rd, 2014



InsightCruises.com/Mac-17



For a full listing of seminars visit
InsightCruises.com/Mac17-seminars

Speakers include:

- Joe Kissell
- Bob LeVitus • Chris Marquardt
- Don McAllister • Sal Soghoian
- Derrick Story • Bebo White

CO-PRODUCED BY:

Macworld

Insight Cruises
THE JOURNEY WITHIN

GTC 2013-380-40



CASEBUDI.com

Travel Case for
iPhone®/iPod®
Charger or Buds



Apple's War Against the File System

What are the long-term implications of iOS's lack of a user-facing interface for manipulating the file system?

Underneath iOS's glossy user interface and cloud-based document storage, files and directories continue to provide the basic structure in which data is organized. But Apple's decision to move from a file-centric user experience to one revolving strictly around the concept of a document shifts the responsibility for organizing files from users to their apps.

Good-bye Files, Hello Documents

In iOS's highly compartmentalized environment, each app lives in its own sandbox. Since Apple built iOS from scratch for a brand-new class of devices, its developers didn't have to worry about supporting aspects of a legacy operating system.

One advantage of this approach is that each app is responsible for managing its own content; this gives developers a high degree of precision in determining such things as what data should be cached, backed up, and synchronized to iCloud, minimizing the app's storage footprint.

Confining an app to its own sandbox also limits its impact on the overall file system. In a traditional environment, software tends to leave all sorts of digital detritus in various directories on a hard drive, and data such as preferences and shared frameworks often linger despite the user's attempt to uninstall the app. With everything neatly isolated in its own container in iOS, getting rid of an app and its residue is much simpler.

Unfortunately, sandboxing often leads to duplication on iOS: An app can access only files that belong in its allotted disk space, and two pieces of software can share data only via "send to" functionality, which creates a copy of the document to hand off from one app to the other.

This approach makes creating complex workflows very difficult, and it may cause the same document to appear in multiple

places—in varying states of completion.

Despite its flaws, iOS's send-to functionality forces developers to deal with the fact that they are not just "saving" a document, but passing it to another app. That encourages developers to choose a neutral format that doesn't force receiving apps to guess what the data means.

Still, unless your needs are very simple, iOS's balkanized approach to document storage ends up causing the very same problems that it attempts to solve.

Thinking Like People

The matter boils down to a simple issue: While the sandboxing model makes sense from a technical point of view and introduces a large number of advantages, it doesn't reflect the way people work.

My work activities revolve around the concept of projects. And my projects rarely involve using just one app, particu-

larly as apps become more and more specialized. Meanwhile, almost nothing I do directly requires a file system. On a large project, I may use folders to compartmentalize data, but I would rather leave that task to the operating system.

For this reason, a project-based model would work well if it became part of iOS. The operating system could allow users to create "workspaces" in which multiple apps would store their respective data. Internally, the workspace would be sandboxed with each app retaining exclusive access to its files, but it would also contain a "common" area from which apps could read one another's information.

A Finder for the Ages

This approach keeps the data together in one place, making it easy to structure in a way that makes sense to a human being, rather than to a computer. And despite relying on a traditional file system internally, it shields the end user from its complexity, thus promoting simplicity and usability.

To make things even neater, Apple could provide a specialized app whose only job was to "own" the workspaces and help the user organize them and sync them to iCloud—a post-PC-era Finder that deals with a higher level of data than today's files and directories do.

The app would simplify transplanting this approach to OS X, where the limitations of today's sandbox are even more evident, and where 30 years of legacy based on unfettered access to the file system have left lots of rubble.

Today's sandboxing may be a stepping-stone to something better, if only because the current approach forces users to deal with some significant limitations.

Marco Tabini, a Toronto-based entrepreneur and writer, was the cofounder and owner of phplarchitect magazine (www.phporch.com).



The Fastest SSD To Make Your Mac Pro New Again

... a Mac Pro 'hot rodding' option ..."

—Rob-Art Morgan, Bare Feats

Boot, Launch, Create, and Save Faster

The Mercury Accelsior_E2 offers the best combination of speed, capacity, and connectivity available today. It utilizes the fastest data interface available, the PCIe slot, to deliver up to 688MB/s of blistering performance in Mac Pro.



eSATA | PCIe | Mac & PC

Up to
688 MB/s Up to
960 GB

OWC Mercury
Accelsior_E2 from \$319.99
www.macsales.com/e2

The Ultimate External Thunderbolt SSD with eSATA Expansion

Expand the capabilities of your iMac, MacBook Pro, MacBook Air, and Mac mini.

Helios+E2 is the ultimate all-in-one drive with three performance options in one!

- Experience hyper-fast OWC SSD speeds via Thunderbolt enabled Macs
- Connect multiple Thunderbolt devices
- Add up to 32TB of externally via (2) high-speed eSATA expansion ports

 THUNDERBOLT | eSATA | Mac



Portables to desktops to rackmounts

Connect any eSATA external drive to Helios+E2



OWC Mercury
Helios+E2 Up to 960GB from \$629.99
www.macsales.com/helios-e2

OWC | 25
YEARS

www.macsales.com • 1-800-275-4576

2650 Bridge Lane • Woodstock, IL 60098

© 2013 Other World Computing. All rights reserved. Apple, iMac, Mac, MacBook Air, MacBook Pro, and Mac Pro are trademarks of Apple Inc., registered in the U.S. and other countries. Thunderbolt and the Thunderbolt logo are trademarks of Intel Corporation in the U.S. and/or other countries. All other trademarks are the property of their respective owners. Prices, specifications and availability are subject to change without notice.

OWC has the right SSD for nearly every Mac

The ultimate performance upgrade for MacBook Air, MacBook Pro, Retina MacBook Pro, Mac Pro, iMac, and Mac mini.

OWC Solid State Drives

Designed to be the best SSD for your Mac and better beyond belief! Boot faster, launch faster and open faster – forget what it was like to wait for things to happen!



Up to 960GB from \$64.99
www.macsales.com/ssd

USERNAME OR PASSWORD?



EcoBoost® fuel economy **and** 240 horsepower.*

And is better. The 2013 EDGE.

Only Ford gives you EcoBoost fuel economy and a whole lot more. ford.com



Go Further

*EPA-estimated rating of 21 city/30 hwy/24 combined mpg. Available 2.0L FWD. Actual mileage will vary.
Horsepower achieved with 93 octane premium fuel.